Rocky Flats Environmental Technology Site

PRE-DEMOLITION SURVEY REPORT (PDSR)

BUILDING 122 CLOSURE PROJECT

REVISION 0

August 4, 2004

CLASSIFICATION REVIEW NOT REQUIRED PER EXEMPTION NUMBER CEX-005-02

1/13

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BUILDING 122 CLOSURE PROJECT

REVISION 0

August 4, 2004

Reviewed by: _____ Date: 8/5/04 OR 8/05/04
Don Risoli, Quality Assurance

Reviewed by: _____ Date: 8/5/04 DPS
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Approved by: _____ Date: 8/5/04
Harry Linsinbigler, Area 5 D&D Project Manager

TABLE OF CONTENTS

ATTACHMENTS

ABBREVIATIONS/ACRONYMS

ACM	Asbestos Containing Material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
HEUN	Highly Enriched Uranyl Nitrate
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSA	Removable Surface Activity
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

4

EXECUTIVE SUMMARY

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 122. Because this Type 2 Facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as part of this PDS included the walls, floors and ceiling. Environmental media beneath and surrounding the facility was not within the scope of this PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

The PDS encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and scoping surveys of Building 122.

Results indicate that no radiological or chemical contamination exists in excess of the PDSP unrestricted release limits. All beryllium results obtained during the PDS were below the investigative level of 0.1 $\mu g/100cm^2$. There are no potentially PCB-containing hazardous waste items. Asbestos abatement will be performed prior to demolition, some non-friable asbestos containing materials will remain in the building during demolition and managed as asbestos waste.

Based upon the PDSR, after asbestos abatement is competed, Building 122 can be demolished and the waste managed as PCB Bulk Product waste, non-friable asbestos waste, or sanitary waste, as appropriate. Process waste system piping located underneath and embedded in the slab shall be managed as LLW during demolition. To ensure the facilities remain free of contamination and PDS data remain valid, Level 2 isolation controls have been established and the areas posted accordingly.

1 INTRODUCTION

A Pre-Demolition Survey (PDS) was performed to enable compliant disposition and waste management of Building 122. Because this Type 2 Facility will be demolished, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). Building surfaces characterized as a part of this PDS included the walls, floors, ceiling and ventilation system. Environmental media beneath and surrounding the facility was not within the scope of this PDS and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

An RLCR was not performed for this facility. Instead a RFCA Contact Record was written (*Building 122 Reconnaissance Level Characterization*, dated 6/28/04), that discusses the process history of the facility and the limited amount of scoping survey data that was available. Based on the process history and scoping survey data, the facility was classified as a Type 2 RFCA facility and recorded as such in the Contact Record.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 122. The location of this facility is shown in Attachment A, Facility Location Map. This facility no longer supports the RFETS mission and will be removed to reduce Site infrastructure, risks and/or operating costs.

Before this Type 2 Facility can be demolished, the Data Quality Objectives (DQOs) for a Pre-Demolition Survey (PDS) must be satisfied; this document presents the PDS results for Building 122. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS was built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report and scoping surveys.

1.1 Purpose

The purpose of this report is to communicate and document the results of the Building 122 PDS effort. A PDS is performed prior to building demolition to define the final radiological and chemical conditions of a facility prior to demolition. Final conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the final radiological and chemical conditions of Building. Environmental media beneath and surrounding the facility was not within the scope of this PDSR and will be addressed in accordance with the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this PDS were the same DQOs identified in the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A Facility-specific Historical Site Assessment (HSA) was conducted to understand the facility history and related hazards. The HSA consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report, and were used to design the PDS. A RLCR was not performed for Building 122 – refer to RFCA Contact Record, DAP-023, dated June 28, 2004, for a discussion and approval for not performing the Building 122 RLCR. Based on the Contact Record, Building 122 was classified as a Type 2 Facility. The HSA and scoping surveys were used to identify PDS data gaps and needs, and to develop radiological and chemical PDS characterization packages. The scoping surveys identify radiological above the PDSP unrestricted release criteria underneath floor tile and paint. These areas were decontaminated and/or stripped out prior to PDS. HSA and scoping survey documentation are located in the RISS Characterization Project files.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Building 122 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describes the minimum survey requirements (refer to the RISS Characterization Project files for Building 122 Radiological Characterization Plan). Radiological survey unit packages were developed for all the interior surfaces of Building 122, including the inside of the ventilation system. Individual radiological survey unit packages are maintained in the RISS Characterization Project files.

Eight radiological survey packages were developed for the interior surfaces of Building 122. The Building 122 exterior was completed as part of survey package EXT-B-001. All survey packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Facilities*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

7

Building 122 interior surfaces were classified as MARSSIM Class 1, 2, and 3 Survey Units. Survey Units 122005 and 122007 were classified as MARSSIM Class 1 because portions of these survey units were known to be contaminated above the DCGLs prior to decontamination. A total of thirty-one (31) TSA measurements (28 systematically grid, one (1) biased, and two (2) QC) and twenty-eight (28) RSA measurements (28 systematically grid) were collected. Surface scan surveys of 100% of all surfaces were performed (861 m^2). Sixty-three (63) surface media (paint) samples and (63) pre and post TSA and RSA media sample measurements were collected (SU 122005).

Survey Units 122003, 122004, 122006 and 122009 were classified as MARSSIM Class 2 because these areas were not expected to contain residual radioactivity greater than the $DCGL_W$. In-process data did not identify radioactivity greater than the $DCGL_W$ in these survey units. However, since these survey units are adjacent to Class 1 survey units, these survey units were classified as a Class 2 survey unit. A total of one hundred thirty-one (131) TSA measurements (61 systematically grid, 61 biased, and 9 QC) and one hundred twenty-one (121) RSA measurements (61 systematically grid and 60 biased) were collected. Surface scan surveys of 50% of the floors (minimum of 508 m^2), 10% of the walls and ceiling (minimum of 480 m^2), and a scan of one meter squared at each survey location in the ventilation (minimum of 60 m^2) were performed.

Survey Units 122001 and 122002 were classified as MARSSIM Class 3 because these areas were not expected to contain, or have ever contained, any residual radioactivity greater than the $DCGL_W$. Historical Site Assessment and process knowledge of this unit provide a high degree of confidence that no individual measurement will exceed the $DCGL_W$. A total of thirty-four (34) TSA measurements (30 random and 4 QC), and thirty (30) RSA measurements (30 random) were collected. Surface scan surveys of 10% of all surfaces (minimum of 176 m2) were performed.

Canberra ISOCS gamma-spectroscopy analysis results of seven (7) of the seventy (70) painted surface samples indicated elevated activity above the transuranic DCGLs. Uranium isotopes of the painted surface samples were less than MDA values. Therefore, the transuranic limits were used as the DCGLs in the unrestricted release decision process. All areas containing elevated paint activity were decontaminated below the unrestricted release levels prior to performing the pre-demolition surveys of these areas (the paint in these areas was physically removed back the point of surrounding clean paint sample locations). These seven (7) elevated sample locations and activity levels are reported on a separate map and data summary sheet in Attachment B, Survey Unit 122005.

All "as left" PDS survey results were less than the DCGL values. Radiological survey data, statistical analysis results, survey locations, media sample results, and radiological scan/survey/sample maps are presented in Attachment B, *Radiological Data Summary and Survey Maps*.

The exterior radiological surveys for Building 122 were performed as part of the RISS West Side Exterior PDS strategy effort (authorized by Department of energy letter, 02-DOE-01598, dated December13th, 2002 and approved by CDPHE letter, RE: Proposed Deviations from the Pre-Demolition Survey Plan (PDSP), dated January 27, 2003: refer to the RISS Characterization Project Files for letter copies). All the exterior surveys performed as part of exterior survey unit package EXT-B-001 were less than the applicable PDS transuranic and uranium DCGL values.

There are 11 Process Waste System drains that are embedded in the slab of Rooms 119, 127 and 127A. These embedded Process Waste System drains have been grouted shut and marked with orange spray paint. These drains and the associated under-slab Process Waste System piping will be removed during demolition and managed as Low Level Waste (LLW).

To ensure the facilities remain free of contamination and PDS data remain valid, Level 2 Isolation Controls have been established and the areas posted accordingly.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 122 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on, or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan was developed during the planning phase that describes sampling requirements and the justification for the sample locations and estimated sample numbers. The contaminants of concern were asbestos, beryllium, RCRA/CERCLA constituents, and PCBs. Refer to Attachment C, Chemical Summary Data and Sample Maps, for details on sample results and sample locations. To ensure the facility remains free of contamination and PDS data remain valid, Level 2 Isolation Controls have been established and the areas posted accordingly.

4.1 Asbestos

A survey of building materials suspected of containing asbestos was conducted during the PDS. A CDPHE-certified asbestos inspector conducted the inspections and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1.* Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector. Prior to demolition, friable and non-friable asbestos abatement and satisfactory clearance sampling will be conducted per CDPHE, Regulation No. 8, Part B, *Emission Standards for Asbestos.* Types and quantities of ACM are detailed in Section 7.0. PDS asbestos sample results are reported in Attachment C, *Asbestos Data Summaries and Sample Maps.*

After asbestos abatement is completed, the following non-friable asbestos containing materials will still remain in the building during demolition and will be appropriately managed during demolition and waste disposal in order to maintain non-friable status:

- 9 by 9 inch brown floor tile in portions of Rooms 128, 128B, 128D, 133A and 133B (mostly under carpet).
- Painted skim coat on the concrete block walls in Rooms 127B and 140D.
- Mastic under non-asbestos floor tile in the 140 hallway west end.
- Mastic pucks on the south wall of Rooms 112, 114 and 116 (previously held the drywall).

4.2 Beryllium (Be)

Seventy (70) biased beryllium smear samples were collected on the interior and exterior surfaces of Building 122, including inside the ventilation system, in accordance with the PDSP and the *Beryllium Characterization Procedure,* PRO-536-BCPR, Revision 0, September 9, 1999. All beryllium PDS smear sample results for Building 122 were less than the investigative limit of 0.1 $\mu g/100cm^2$. PDS beryllium laboratory sample data and location maps are contained in Attachment C, *Beryllium Data Summaries and Sample Maps*.

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on the HSAR, facility walk-downs and a review of RFETS waste management databases, Building 122 did not store or use significant quantities of materials containing RCRA/CERCLA constituents. However, Building 122 did contain walls with lead (Pb) shielding. Prior to performing PDS activities, the Pb-lined walls were removed and managed as Low Level Mixed Waste (LLMW) and assigned the RCRA code D008. There were no stains, residues, or other evidence of RCRA/CERCLA constituent contamination. Based on the above historical and process knowledge, RCRA/CERCLA sampling was not performed as part of this PDSR.

The facility contained some RCRA regulated items in addition to the Pb-lined walls, such as mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, mercury containing gauges, circuit boards, and lead-acid batteries. However, these items have been removed and managed in accordance with the Colorado Hazardous Waste Act.

Sampling for lead in paint in this facility was not performed. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. There were no high contamination areas identified inside Building 122.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSAR, facility walk-downs and a review of RFETS waste management databases, Building 122 does not have a history of PCB contamination. Based on the age of the building (constructed prior to 1980), paints used are assumed to contain PCBs, and all painted surfaces will be managed as PCB Bulk Product Waste. Based on the above historical and process knowledge, PCB sampling was not performed as part of this PDSR.

During building strip-out activities, all fluorescent light ballasts were inspected. Leaking PCB ballasts, and those weighing more than 9 lbs, were removed and managed as TSCA waste. All other PCB ballasts will remain in the building to be managed as PCB Bulk Product Waste.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 122 consists of those common to standard industrial environments. There are no energized systems or utilities associated with this facility. The facility has been relatively well maintained and is in good physical condition, and therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 122, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments B and C) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original project DQOs.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment D.

11

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Building 122 will generate sanitary waste, non-friable asbestos waste and LLW. Estimated waste types and waste volumes are presented below. All wastes can be disposed of as sanitary waste, except PCB Bulk Product Waste. There are no PCB ballast or hazardous waste items to remove or manage. The embedded Process Waste System drains and piping located underneath the slab shall be managed as LLW during demolition.

WASTE TYPES AND VOLUME ESTIMATES

Facility	Concrete(cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM	Other Waste (cu ft)
Bldg. 122	8,200	0	1,100	0	2,500	1,000 Sq ft of transite, 1,000 liner ft of TSI, 10 cu ft of misc.	Under-slab Process Waste Piping – 10

After asbestos abatement is completed, the following non-friable asbestos containing materials will remain in the building during demolition and will be appropriately managed during demolition and waste disposal in order to maintain non-friable status:

- 9 by 9 inch brown floor tile in portions of Rooms 128, 128B, 128D, 133A and 133B (mostly under carpet).
- Painted skim coat on the concrete block walls in Rooms 127B and 140D.
- Mastic under non-asbestos floor tile in the west end of the 140 hallway.
- Mastic pucks on the south wall of Rooms 112, 114 and 116 (previously held the drywall).

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 122 is ready for demolition. All areas met the PDSP unrestricted release limits and the various waste streams identified in Section 7.0 will be managed appropriately.

The PDS for Building 122 was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Environmental media beneath and surrounding the facility will be addressed at a future date in accordance with the Soil Disturbance Permit process and in compliance with RFCA. To ensure Building 122 remains free of contamination and PDS data remain valid, Level 2 isolation controls have been established and the facility posted accordingly.

9 REFERENCES

DOE/RFFO, CDPHE, EPA, 1996. *Rocky Flats Cleanup Agreement (RFCA)*, July 19, 1996

DOE Order 5400.5, *Radiation Protection of the Public and the Environment*

DOE Order 414.1A, *Quality Assurance*

EPA, 1994. *The Data Quality Objective Process,* EPA QA/G-4

K-H, 1999. *Decommissioning Program Plan*, June 21, 1999

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001

MAN-076-FDPM, *Facility Disposition Program Manual*, Rev. 3, January 1, 2002

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev. 4, July 15, 2002

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev. 1, July 15, 2002

MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual* (NUREG-1575, EPA 402-R-97-016)

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Facilitys*, Rev. 1, May 22, 2001

PRO-477-RSP-16.03, *Radiological Samples of Building Media*, Rev. 1, May 22, 2001

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev. 1, May 22, 2001

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev. 1, May 22, 2001

PRO-563-ACPR, *Asbestos Characterization Procedure,* Revision 0, August 24, 1999

PRO-536-BCPR, *Beryllium Characterization Procedure*, Revision 0, August 24, 1999

RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition

RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal

RFETS, RFCA RSOP for Recycling Concrete, September 28, 1999

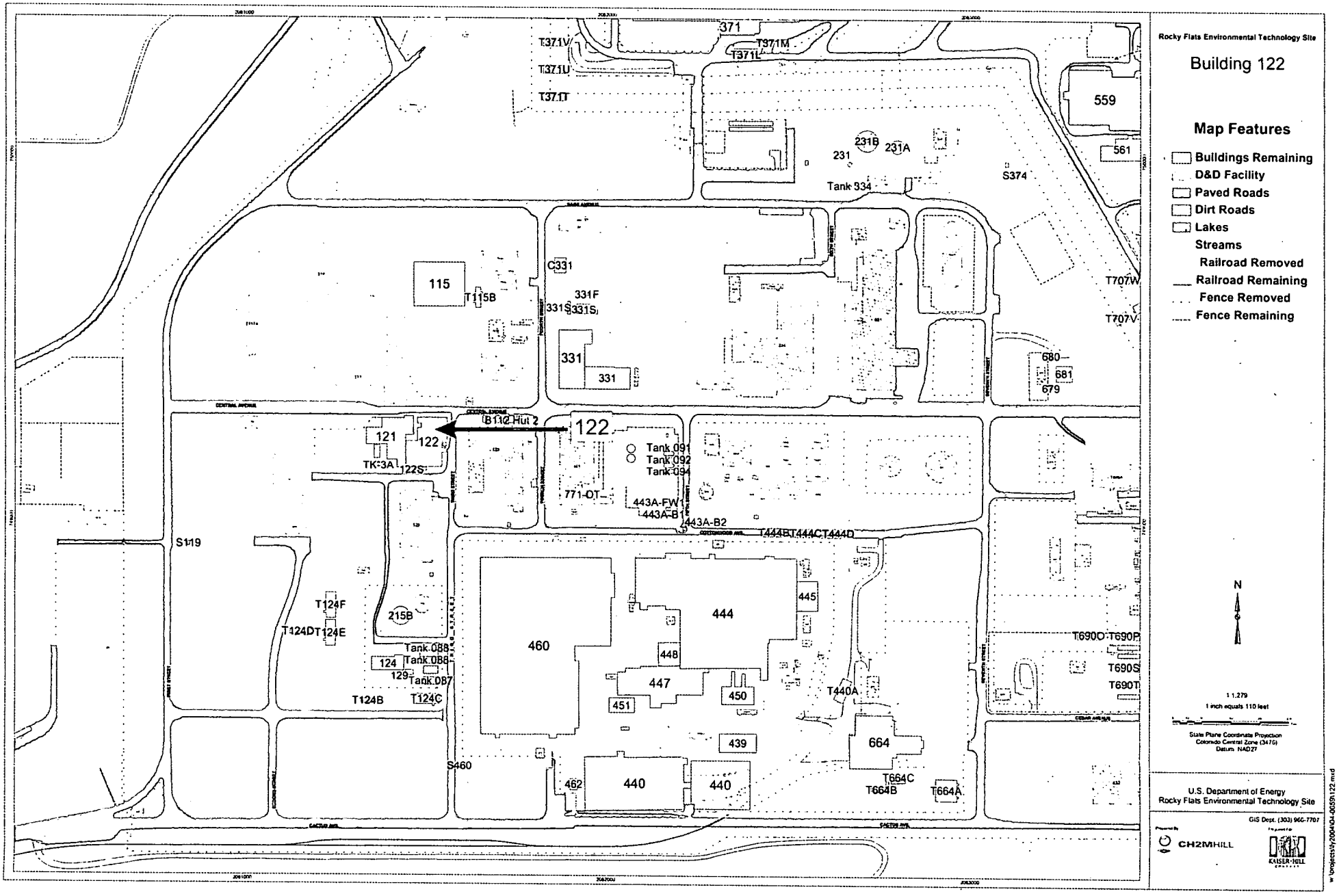
Historical Site Assessment Report for the *Area 5 – Group 3 Facilities, Dated April 2003,* Revision 1.

RFCA Contact Record, *Building 122 Reconnaissance Level Characterization*, DAP-023, dated 6/28/04).

13

ATTACHMENT A

Facility Location Map


Rocky Flats Environmental Technology Site
Building 122
Map Features
Buildings Remaining
D&D Facility
Paved Roads
Dirt Roads
Lakes
Streams
Railroad Removed
Railroad Remaining
Fence Removed
Fence Remaining
N
1:1,279
1 inch equals 110 feet
State Plane Coordinate Projection
Colorado Central Zone (3476)
Datum: NAD27
U.S. Department of Energy
Rocky Flats Environmental Technology Site
GIS Dept. (303) 966-7707
CH2MHILL
KAISER-HILL
122
B112 Hut 2
371
T371V
T371M
T371L
T371U
T371T
559
561
231B
231A
231
Tank 334
S374
115
T115B
C331
331F
331S
331S
331
331
T707W
T707V
680
681
679
121
122
TK-3A1
122S
Tank 091
Tank 092
Tank 094
771-OT
443A-FW1
443A-B1
443A-B2
T444BT444CT444D
S119
T124F
T124DT124E
215B
Tank 088
Tank 086
Tank 087
124
129
T124B
T124C
460
444
445
448
447
450
451
T440A
439
664
T664C
T664B
T664A
S460
462
440
440
T690O T690P
T690S
T690T

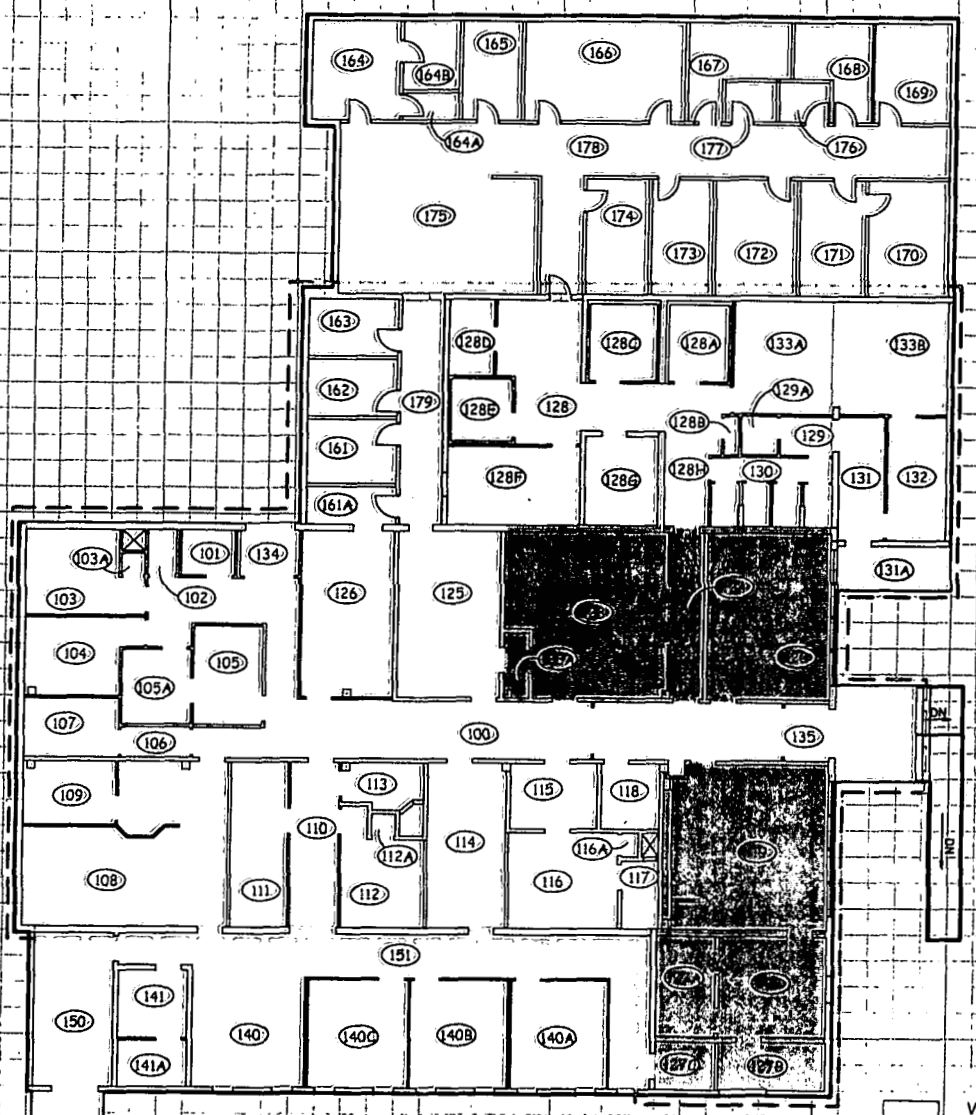
ATTACHMENT B

Radiological Data Summaries and Survey Maps

PRE-DEMOLITION SURVEY FOR B 122

Survey Area: N/A **Survey Unit:** N/A **Classification:** N/A
Building:
Survey Unit Description: Building 122 Plan Survey Unit Breakdown
Total Area: N/A **Total Floor Area:** N/A

Building 122 Survey Unit Key Plan



Ventilation System Survey Unit Not shown on plan

Media Sample Survey Unit as Shown

For Reference Only

SURVEY UNIT KEY

- ☐ 122001 - Class 3
- ☐ 122002 - Class 3
- 122003 - Class 2
- ☐ 122004 - Class 2
- ☐ 122005 - Class 1
- ☐ 122006 - Class 2
- ☐ 122007 - Class 1
- ☐ 122009 - Class 2

N

0 FEET 30
0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s): N/A

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 02-0888/B122-KP-SU Oct 17, 2003

17

Survey Area: 5	Survey Unit: 122001	Building: 122
Description: Building 122 Interior Rooms 164, 164A, 164B, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, & 178 (Floor, Walls, and Ceiling)		

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	60.0 dpm/100cm²
Minimum:	-2.3 dpm/100cm²
Mean:	8.6 dpm/100cm²
Standard Deviation:	16.1
QC Maximum:	64.7 dpm/100cm²
QC Minimum:	15.6 dpm/100cm²
QC Mean:	40.2 dpm/100cm²
Transuranic DCGLw:	100.0 dpm/100cm²
Transuranic DCGLemc:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	2.3 dpm/100cm²
Minimum:	-0.6 dpm/100cm²
Mean:	1.1 dpm/100cm²
Standard Deviation:	1.0
Transuranic DCGLw:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5	Survey Unit: 122001	Building: 122

Description: Building 122 Interior Rooms 164, 164A, 164B, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, & 178 (Floor, Walls, and Ceiling)

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	07/12/04	Electra	3104	DP-6	09/30/04	0.202	NA	48.0	NA	T
2	711447	07/12/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
3	702575	07/12/04	Electra	657	AP-6	12/14/04	0.186	NA	48.0	NA	S
4	712193	07/12/04	Electra	674	AP-6	12/29/04	0.187	NA	48.0	NA	S
6	712193	07/12/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
7	711447	07/12/04	Electra	2343	DP-6	11/28/04	0.224	NA	48.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122001	Building: 122

Description: Building 122 Interior Rooms 164, 164A, 164B, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, & 178 (Floor, Walls, and Ceiling)

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122001PRP-N001	6	0.8	N/A	
122001PRP-N002	6	0.8	N/A	
122001PRP-N003	6	2.3	N/A	
122001PRP-N004	6	0.8	N/A	
122001PRP-N005	6	-0.6	N/A	
122001PRP-N006	6	0.8	N/A	
122001PRP-N007	6	0.8	N/A	
122001PRP-N008	6	0.8	N/A	
122001PRP-N009	6	2.3	N/A	
122001PRP-N010	6	-0.6	N/A	
122001PRP-N011	6	2.3	N/A	
122001PRP-N012	6	2.3	N/A	
122001PRP-N013	6	0.8	N/A	
122001PRP-N014	6	0.8	N/A	
122001PRP-N015	6	2.3	N/A	

Comments:

Survey Area: 5	Survey Unit: 122001	Building: 122
Description: Building 122 Interior Rooms 164, 164A, 164B, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, & 178 (Floor, Walls, and Ceiling)		

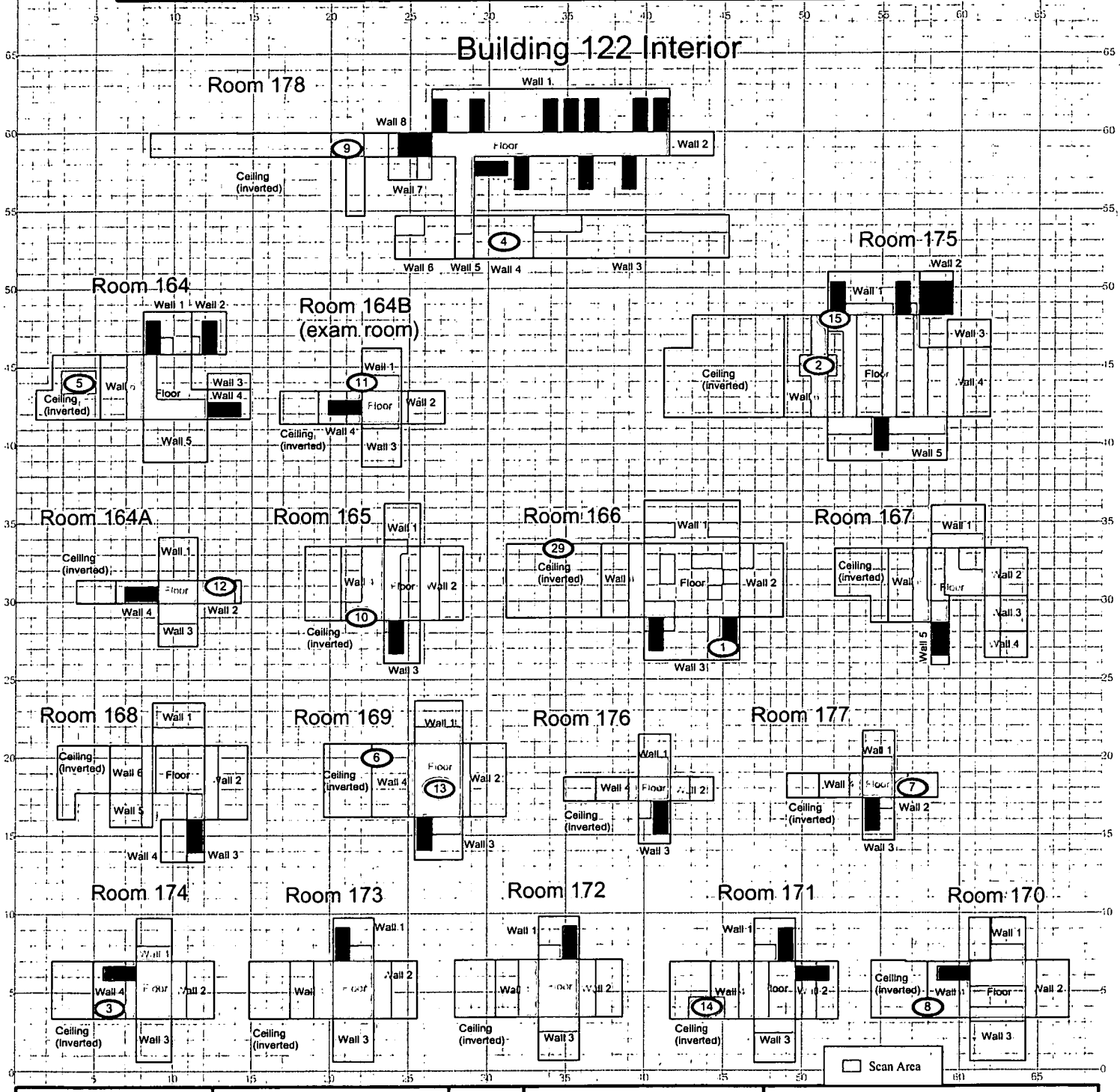
Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122001PRP-N001	1	-2.3	N/A	
122001PRP-N002	1	4.1	N/A	
122001PRP-N003	1	4.1	N/A	
122001PRP-N004	1	7.6	N/A	
122001PRP-N005	1	7.6	N/A	
122001PRP-N006	1	-2.3	N/A	
122001PRP-N007	1	60.0	N/A	
122001QRP-N007	7	64.7	N/A	
122001PRP-N008	1	7.6	N/A	
122001PRP-N009	1	10.5	N/A	
122001PRP-N010	1	4.1	N/A	
122001PRP-N011	1	-2.3	N/A	
122001PRP-N012	1	4.1	N/A	
122001PRP-N013	1	0.6	N/A	
122001PRP-N014	1	-2.3	N/A	
122001PRP-N015	1	27.4	N/A	
122001QRP-N015	7	15.6	N/A	

Comments:

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122001** **Classification: 3**
Building: 122
Survey Unit Description: B122 Interior - Rooms 164, 164A, 164B, 165 - 178, Floors, Walls & Ceilings
Total Area: 1,139 sq. m. **Total Floor Area: 230 sq. m.**



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
2, 3, 4

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 02-0888/B12201- IN1-SC July 21, 2004

Survey Area: 5	Survey Unit: 122002	Building: 122

Description: Building 122 Interior Rooms 140, 140A, 140B, 140C, 141, 141A, 150, & 151 (Floor, Walls, and Ceiling)

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	21.4 dpm/100cm²
Minimum:	-9.5 dpm/100cm²
Mean:	5.7 dpm/100cm²
Standard Deviation:	9.9
QC Maximum:	21.5 dpm/100cm²
QC Minimum:	6.7 dpm/100cm²
QC Mean:	14.1 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 15 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	2.3 dpm/100cm²
Minimum:	-0.6 dpm/100cm²
Mean:	1.0 dpm/100cm²
Standard Deviation:	0.8
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

23

Survey Area: 5	Survey Unit: 122002	Building: 122

Description: Building 122 Interior Rooms 140, 140A, 140B, 140C, 141, 141A, 150, & 151 (Floor, Walls, and Ceiling)

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	702575	07/14/04	Electra	3104	DP-6	09/30/04	0.202	NA	48.0	NA	T/S
2	712193	07/14/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
3	511390	07/19/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	T
4	711447	07/19/04	Electra	279	AP-6	10/01/04	0.183	NA	48.0	NA	S
5	711447	07/19/04	Electra	680	AP-6	12/08/04	0.159	NA	48.0	NA	S
6	712193	07/19/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122002	Building: 122

Description: Building 122 Interior Rooms 140, 140A, 140B, 140C, 141, 141A, 150, & 151 (Floor, Walls, and Ceiling)

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122002PRP-N001	2	0.8	N/A	
122002PRP-N002	2	0.8	N/A	
122002PRP-N003	2	2.3	N/A	
122002PRP-N004	2	0.8	N/A	
122002PRP-N005	2	0.8	N/A	
122002PRP-N006	2	0.8	N/A	
122002PRP-N007	2	0.8	N/A	
122002PRP-N008	2	-0.6	N/A	
122002PRP-N009	2	2.3	N/A	
122002PRP-N010	2	0.8	N/A	
122002PRP-N011	2	0.8	N/A	
122002PRP-N012	2	0.8	N/A	
122002PRP-N013	2	2.3	N/A	
122002PRP-N014	2	0.8	N/A	
122002PRP-N015	2	0.8	N/A	

Comments:

Survey Area: 5	Survey Unit: 122002	Building: 122

Description: Building 122 Interior Rooms 140, 140A, 140B, 140C, 141, 141A, 150, & 151 (Floor, Walls, and Ceiling)

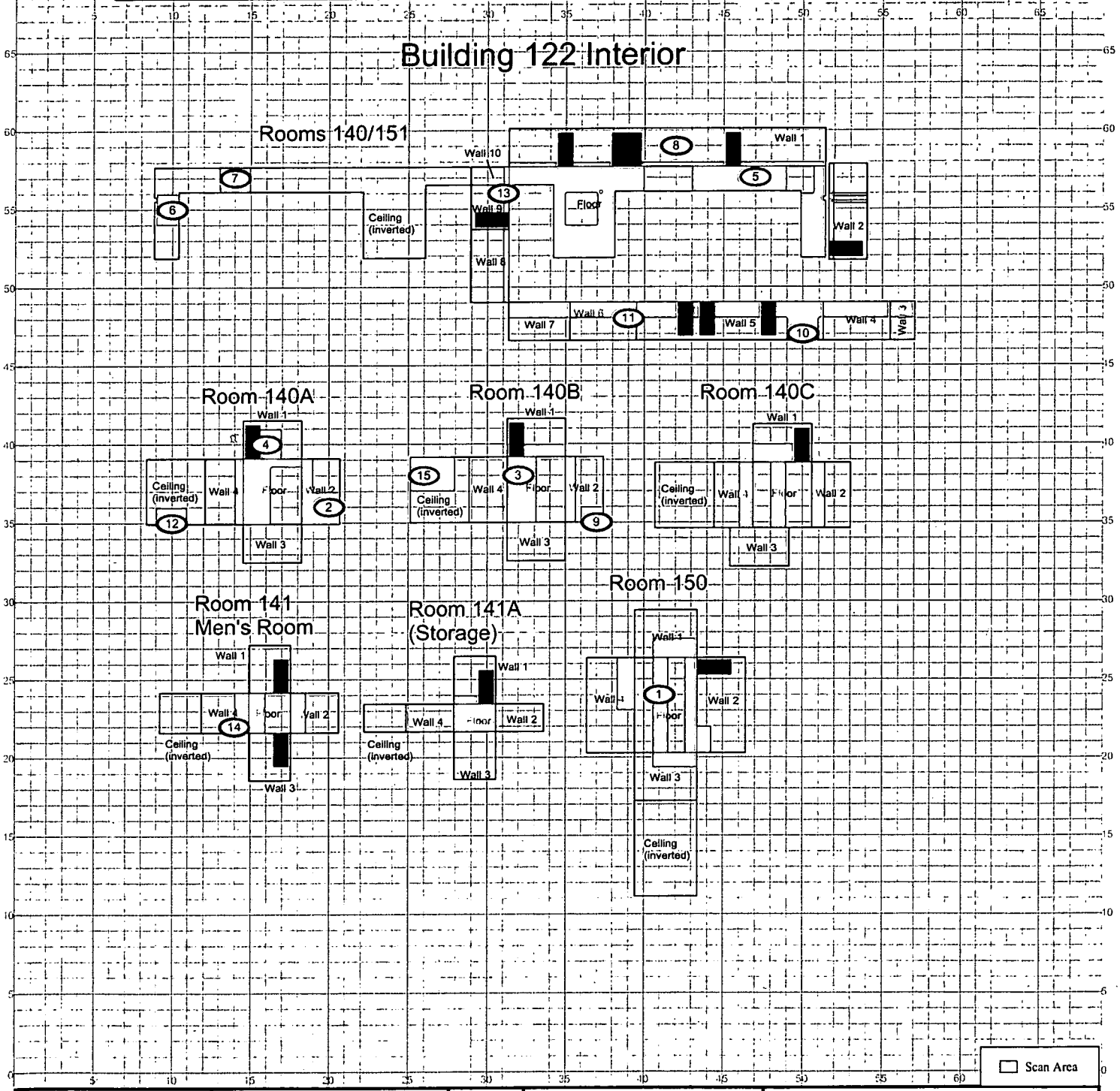
Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122002PRP-N001	1	0.4	N/A	
122002PRP-N002	1	-9.5	N/A	
122002PRP-N003	1	16.7	N/A	
122002QRP-N003	6	6.7	N/A	
122002PRP-N004	1	-3.1	N/A	
122002PRP-N005	1	0.4	N/A	
122002PRP-N006	3	11.2	N/A	
122002PRP-N007	3	14.8	N/A	
122002PRP-N008	3	14.8	N/A	
122002PRP-N009	1	0.4	N/A	
122002PRP-N010	1	-3.1	N/A	
122002PRP-N011	1	-3.1	N/A	
122002PRP-N012	1	-4.5	N/A	
122002PRP-N013	3	21.4	N/A	
122002QRP-N013	6	21.5	N/A	
122002PRP-N014	3	17.8	N/A	
122002PRP-N015	1	10.3	N/A	

Comments:

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122002** **Classification: 3**
Building: 122
Survey Unit Description: B122 Interior Rooms 127C, 140, 140A, 140B, 140C, 141, 141A, 150 & 151 (Floor, Walls & Ceiling)
Total Area: 586 sq. m. **Total Floor Area: 132 sq. m.**



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 4, 5

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL

MAP ID: 02-0888/B122002-IN-SC July 27, 2004

Survey Area: 5	Survey Unit: 122003	Building: 122

Description: Building 122 Interior, Rooms 131, 132, & 133B (Floors, Walls, and Ceiling)

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 16 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	22.1 dpm/100cm²
Minimum:	-4.9 dpm/100cm²
Mean:	8.7 dpm/100cm²
Standard Deviation:	8.8
QC Maximum:	10.2 dpm/100cm²
QC Minimum:	1.3 dpm/100cm²
QC Mean:	5.7 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 16 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	3.2 dpm/100cm²
Minimum:	-1.2 dpm/100cm²
Mean:	-0.2 dpm/100cm²
Standard Deviation:	1.4
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5	Survey Unit: 122003	Building: 122
Description: Building 122 Interior, Rooms 131, 132, & 133B (Floors, Walls, and Ceiling)		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	07/20/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	T/S
2	511390	07/20/04	Electra	675	AP-6	12/01/04	0.180	NA	48.0	NA	S
3	511390	07/20/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
4	711447	07/20/04	Electra	1512	DP-6	11/10/04	0.225	NA	48.0	NA	T

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122003	Building: 122
Description: Building 122 Interior, Rooms 131, 132, & 133B (Floors, Walls, and Ceiling)		

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122003PRP-N001	3	-1.2	N/A	
122003PRP-N002	3	1.8	N/A	
122003PRP-N003	3	-1.2	N/A	
122003PRP-N004	3	-1.2	N/A	
122003PRP-N005	3	0.3	N/A	
122003PRP-N006	3	-1.2	N/A	
122003PRP-N007	3	-1.2	N/A	
122003PRP-N008	3	0.3	N/A	
122003PRP-N009	3	1.8	N/A	
122003PRP-N010	3	0.3	N/A	
122003PRP-N011	3	-1.2	N/A	
122003PRP-N012	3	3.2	N/A	
122003PRP-N013	3	0.3	N/A	
122003PRP-N014	3	-1.2	N/A	
122003PRP-N015	3	-1.2	N/A	
122003PRP-N016	3	-1.2	N/A	

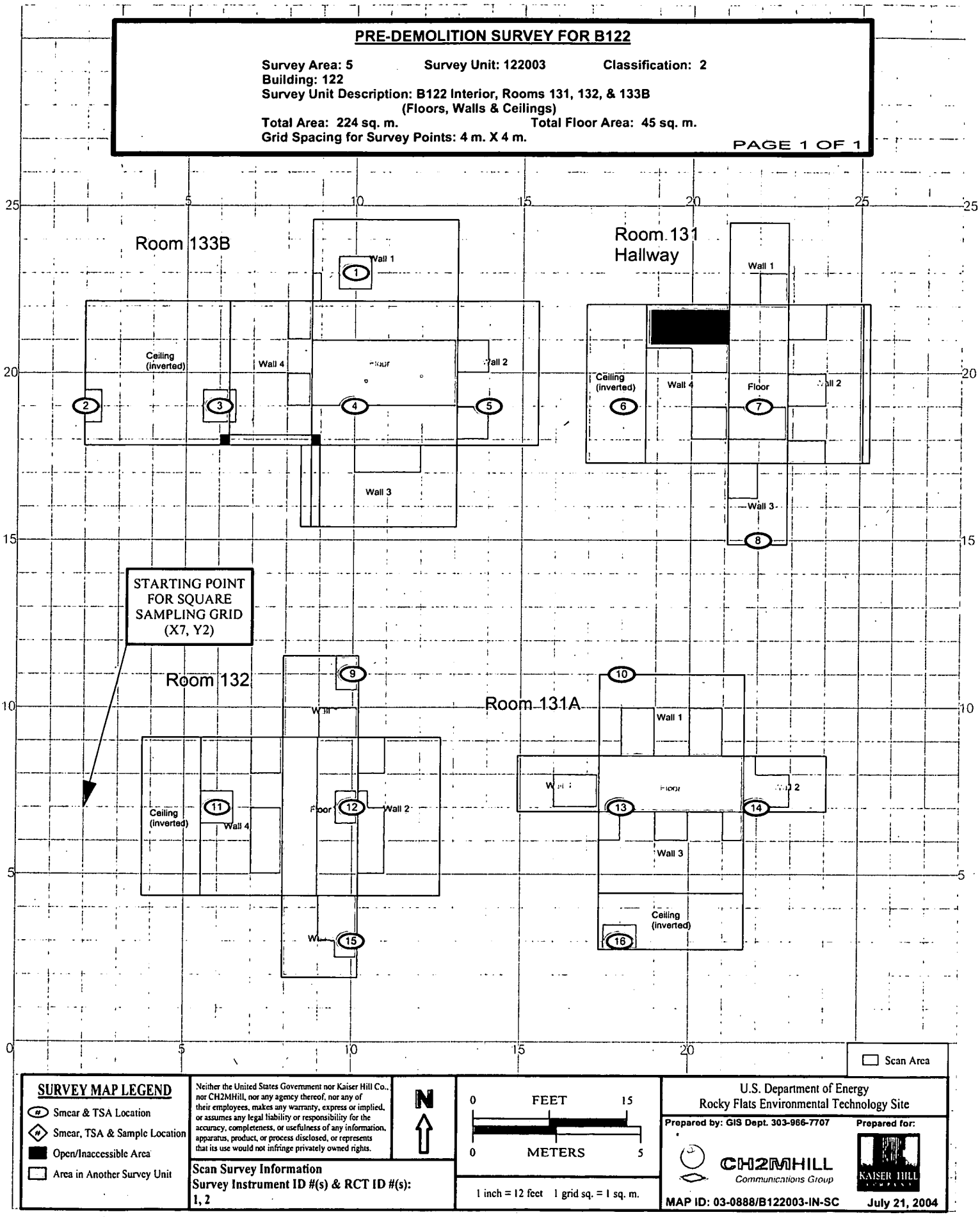
Comments:

Survey Area: 5	Survey Unit: 122003	Building: 122
Description: Building 122 Interior, Rooms 131, 132, & 133B (Floors, Walls, and Ceiling)		

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122003PRP-N001	1	5.3	N/A	
122003PRP-N002	1	-4.9	N/A	
122003PRP-N003	1	11.9	N/A	
122003PRP-N004	1	5.3	N/A	
122003PRP-N005	1	-1.3	N/A	
122003PRP-N006	1	-4.9	N/A	
122003PRP-N007	1	11.9	N/A	
122003PRP-N008	1	5.3	N/A	
122003PRP-N009	1	22.1	N/A	
122003QRP-N009	4	10.2	N/A	
122003PRP-N010	1	8.9	N/A	
122003PRP-N011	1	19.1	N/A	
122003PRP-N012	1	1.7	N/A	
122003PRP-N013	1	8.9	N/A	
122003PRP-N014	1	22.1	N/A	
122003QRP-N014	4	1.3	N/A	
122003PRP-N015	1	8.9	N/A	
122003PRP-N016	1	19.1	N/A	

Comments:


PRE-DEMOLITION SURVEY FOR B122
Survey Area: 5 Survey Unit: 122003 Classification: 2
Building: 122
Survey Unit Description: B122 Interior, Rooms 131, 132, & 133B
(Floors, Walls & Ceilings)
Total Area: 224 sq. m. Total Floor Area: 45 sq. m.
Grid Spacing for Survey Points: 4 m. X 4 m.
PAGE 1 OF 1
Room 133B
Room 131
Hallway
Room 132
Room 131A
STARTING POINT FOR SQUARE SAMPLING GRID (X7, Y2)
Wall 1
Wall 2
Wall 3
Wall 4
Floor
Ceiling (inverted)
SURVEY MAP LEGEND
Smear & TSA Location
Smear, TSA & Sample Location
Open/Inaccessible Area
Area in Another Survey Unit
Scan Area
Neither the United States Government nor Kaiser Hill Co., nor CH2MHill, nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.
N
0 FEET 15
0 METERS 5
1 inch = 12 feet 1 grid sq. = 1 sq. m.
Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2
U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966-7707
Prepared for:
CH2MHILL
Communications Group
KAISER HILL COMPANY
MAP ID: 03-0888/B122003-IN-SC
July 21, 2004

22

Survey Area: 5	Survey Unit: 122004	Building: 122

Description: Building 122 Interior Rooms 128, 128C, 128D, 128E, 128F, 128G, 161, 161A, 162, 163, & 179 (Floor, Walls, and Ceiling)

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 21 | Nbr Biased Measurements Performed: 0 | Nbr QC Performed: 2

Alpha

Maximum:	18.0 dpm/100cm²
Minimum:	-6.0 dpm/100cm²
Mean:	3.7 dpm/100cm²
Standard Deviation:	6.3
QC Maximum:	18.1 dpm/100cm²
QC Minimum:	7.4 dpm/100cm²
QC Mean:	12.7 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 21 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	2.3 dpm/100cm²
Minimum:	-0.6 dpm/100cm²
Mean:	0.7 dpm/100cm²
Standard Deviation:	0.9
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5	Survey Unit: 122004	Building: 122

Description: Building 122 Interior Rooms 128, 128C, 128D, 128E, 128F, 128G, 161, 161A, 162, 163, & 179 (Floor, Walls, and Ceiling)

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	702575	07/13/04	Electra	657	AP-6	12/14/04	0.186	NA	48.0	NA	S
2	712193	07/13/04	Electra	674	AP-6	12/28/04	0.187	NA	48.0	NA	S
3	712193	07/13/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	T/S
4	712193	07/13/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
5	712193	07/13/04	Electra	680	AP-6	12/08/04	0.159	NA	48.0	NA	S
6	711447	07/13/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	Q/S
7	511390	07/19/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	S
8	711447	07/19/04	Electra	279	AP-6	10/01/04	0.183	NA	48.0	NA	S
9	711447	07/19/04	Electra	680	AP-6	12/08/04	0.159	NA	48.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122004	Building: 122
Description: Building 122 Interior Rooms 128, 128C, 128D, 128E, 128F, 128G, 161, 161A, 162, 163, & 179 (Floor, Walls, and Ceiling)		

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122004PRP-N001	4	2.3	N/A	
122004PRP-N002	4	0.8	N/A	
122004PRP-N003	4	0.8	N/A	
122004PRP-N004	4	-0.6	N/A	
122004PRP-N005	4	0.8	N/A	
122004PRP-N006	4	0.8	N/A	
122004PRP-N007	4	0.8	N/A	
122004PRP-N008	4	2.3	N/A	
122004PRP-N009	4	0.8	N/A	
122004PRP-N010	4	0.8	N/A	
122004PRP-N011	4	-0.6	N/A	
122004PRP-N012	4	0.8	N/A	
122004PRP-N013	4	-0.6	N/A	
122004PRP-N014	4	-0.6	N/A	
122004PRP-N015	4	2.3	N/A	
122004PRP-N016	4	0.8	N/A	
122004PRP-N017	4	0.8	N/A	
122004PRP-N018	4	0.8	N/A	
122004PRP-N019	4	0.8	N/A	
122004PRP-N020	4	-0.6	N/A	
122004PRP-N021	4	0.8	N/A	

Comments:

Survey Area: 5	Survey Unit: 122004	Building: 122

Description: Building 122 Interior Rooms 128, 128C, 128D, 128E, 128F, 128G, 161, 161A, 162, 163, & 179 (Floor, Walls, and Ceiling)

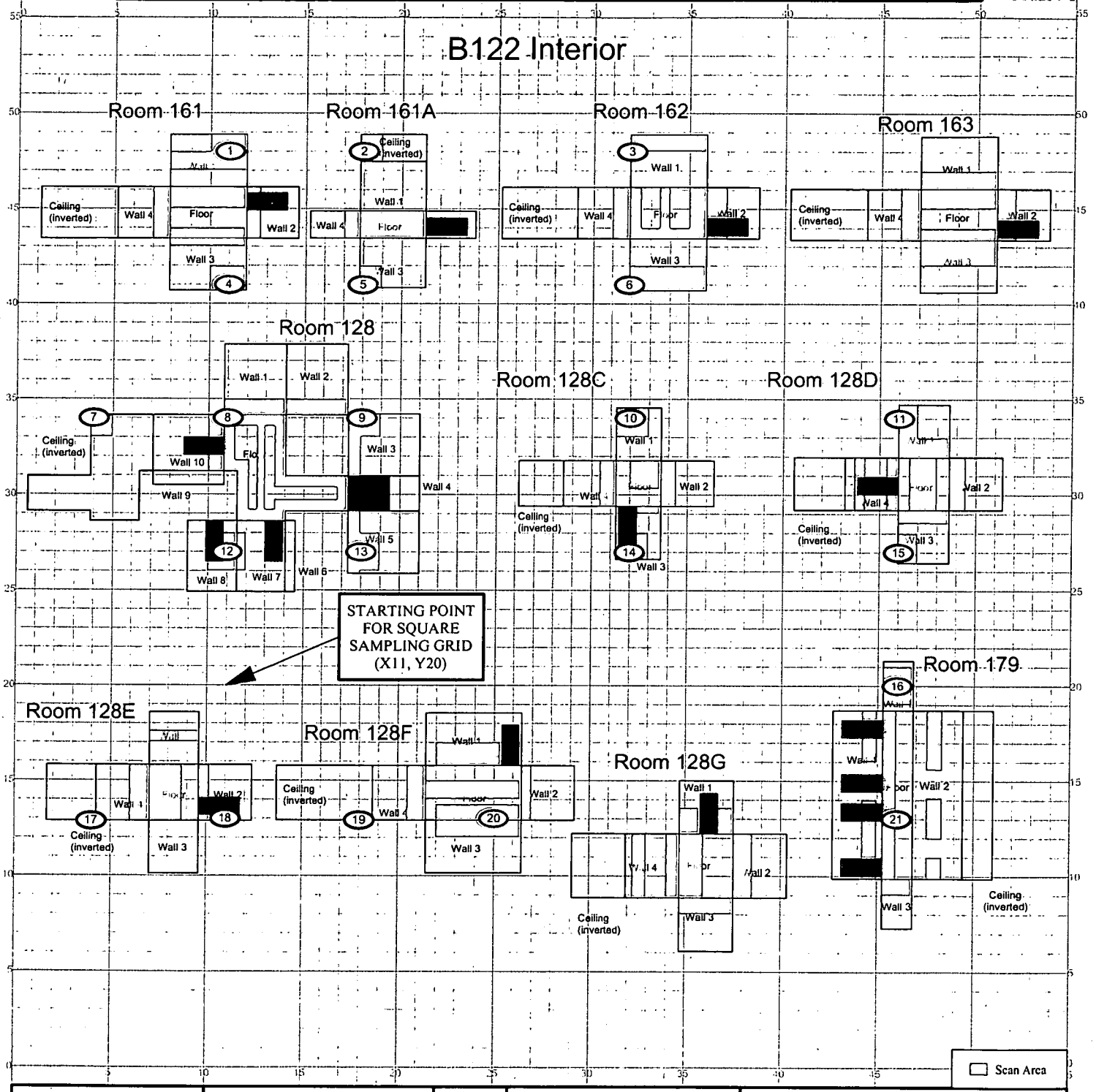
Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122004PRP-N001	3	6.3	N/A	
122004PRP-N002	3	9.3	N/A	
122004PRP-N003	3	-0.9	N/A	
122004PRP-N004	3	2.7	N/A	
122004PRP-N005	3	1.2	N/A	
122004PRP-N006	3	4.2	N/A	
122004PRP-N007	3	2.7	N/A	
122004PRP-N008	3	1.2	N/A	
122004PRP-N009	3	-6.0	N/A	
122004PRP-N010	3	-3.9	N/A	
122004PRP-N011	3	-6.0	N/A	
122004PRP-N012	3	-0.9	N/A	
122004PRP-N013	3	7.8	N/A	
122004QRP-N013	6	7.4	N/A	
122004PRP-N014	3	6.3	N/A	
122004PRP-N015	3	9.3	N/A	
122004PRP-N016	3	1.2	N/A	
122004PRP-N017	3	9.3	N/A	
122004PRP-N018	3	14.4	N/A	
122004PRP-N019	3	4.2	N/A	
122004PRP-N020	3	-2.4	N/A	
122004PRP-N021	3	18.0	N/A	
122004QRP-N021	6	18.1	N/A	

Comments:

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122004** **Classification: 2**
Building: 122
Survey Unit Description: B122 Interior - Rooms 128, 128C - G, 161, 161A, 162 163 & 179, Floors, Walls, & Ceilings
Total Area: 687 sq. m. **Total Floor Area: 118 sq. m.**
Grid Spacing for Survey Points: 7m. X 7m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 30
0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1-3, 5-9

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 03-0888/B122004-IN-SC July 21, 2004

Survey Area: 5	Survey Unit: 122005	Building: 122

Description: Building 122 Interior Media Sample Package

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 0 | Nbr Biased Measurements Required: 63 | Nbr QC Required: 0

Nbr Random Measurements Performed: 0 | Nbr Biased Measurements Performed: 63 | Nbr QC Performed: 0

Alpha

Maximum:	72.8 dpm/100cm²
Minimum:	-7.3 dpm/100cm²
Mean:	15.4 dpm/100cm²
Standard Deviation:	14.4
QC Maximum:	NA dpm/100cm²
QC Minimum:	NA dpm/100cm²
QC Mean:	NA dpm/100cm²
Transuranic DCGLW:	100.0 dpm/100cm²
Transuranic DCGLEMC:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 0 | Nbr Biased Measurements Required: 63

Nbr Random Measurements Performed: 0 | Nbr Biased Measurements Performed: 63

Alpha

Maximum:	4.2 dpm/100cm²
Minimum:	-1.2 dpm/100cm²
Mean:	0.2 dpm/100cm²
Standard Deviation:	1.2
Transuranic DCGLW:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 63

Nbr Random Collected: 0 | Nbr Biased Collected: 63

Uranium

Maximum:	381 dpm/100cm²
Minimum:	0 dpm/100cm²
Mean:	147 dpm/100cm²
Standard Deviation:	97
Uranium DCGLW:	5,000 dpm/100cm²
Uranium DCGLEMC:	15,000 dpm/100cm²

Transuranic

Maximum:	58 dpm/100cm²
Minimum:	0 dpm/100cm²
Mean:	6 dpm/100cm²
Standard Deviation:	15
Transuranic DCGLW:	100 dpm/100cm²
Transuranic DCGLEMC:	300 dpm/100cm²

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	03/01/04	Electra	1445	DP-6	03/18/04	0.217	NA	48.0	NA	T
2	511390	03/01/04	Electra	1425	DP-6	03/18/04	0.228	NA	48.0	NA	T
3	512590	03/01/04	SAC-4	924	NA	04/27/04	0.330	NA	10.0	NA	R
4	512590	03/02/04	SAC-4	924	NA	04/27/04	0.330	NA	10.0	NA	R
5	511390	03/02/04	Electra	1665	DP-6	08/11/04	0.213	NA	48.0	NA	T
6	512590	03/02/04	Electra	1512	NA	04/27/04	0.221	NA	48.0	NA	T
7	711799	03/02/04	SAC-4	830	NA	04/22/04	0.330	NA	10.0	NA	R
8	711799	03/02/04	SAC-4	845	NA	07/26/04	0.330	NA	10.0	NA	R
9	511390	03/03/04	Electra	1665	DP-6	08/11/04	0.213	NA	48.0	NA	T
10	512590	03/03/04	Electra	3104	DP-6	03/29/04	0.209	NA	48.0	NA	T
11	512590	03/03/04	SAC-4	924	NA	04/27/04	0.330	NA	10.0	NA	R
12	711799	04/19/04	Electra	2352	DP-6	05/11/04	0.225	NA	48.0	NA	T
13	711799	04/19/04	SAC-4	924	NA	04/27/04	0.330	NA	10.0	NA	R
14	511390	07/15/04	Electra	1512	DP-6	11/10/04	0.225	NA	48.0	NA	T
15	711447	07/15/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	T
16	711447	07/15/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Biased Removable Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N001	3	1.2	N/A	3	1.2	N/A
122005PBP-N002	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N003	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N004	3	2.7	N/A	3	-0.3	N/A
122005PBP-N005	3	1.2	N/A	3	-0.3	N/A
122005PBP-N006	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N007	3	1.2	N/A	3	-0.3	N/A
122005PBP-N008	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N009	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N010	3	2.7	N/A	3	2.7	N/A
122005PBP-N011	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N012	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N013	3	1.2	N/A	3	-0.3	N/A
122005PBP-N014	3	1.2	N/A	3	-0.3	N/A
122005PBP-N015	3	2.7	N/A	3	-0.3	N/A
122005PBP-N016	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N017	3	-0.3	N/A	3	-0.3	N/A
122005PBP-N018	4	-0.3	N/A	7	0.0	N/A
122005PBP-N019	4	-0.3	N/A	8	0.0	N/A
122005PBP-N020	4	-0.3	N/A	7	0.0	N/A
122005PBP-N023	4	1.2	N/A	8	0.0	N/A
122005PBP-N024	4	-0.3	N/A	7	0.0	N/A
122005PBP-N025	4	-0.3	N/A	8	0.0	N/A
122005PBP-N029	4	-0.3	N/A	8	0.0	N/A
122005PBP-N030	4	-0.3	N/A	7	0.0	N/A
122005PBP-N033	4	1.2	N/A	8	0.0	N/A
122005PBP-N034	4	1.2	N/A	7	0.0	N/A

Survey Area: 5	Survey Unit: 122005	Building: 122

Description: Building 122 Interior Media Sample Package

Biased Removable Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N035	4	4.2	N/A	8	1.5	N/A
122005PBP-N036	4	1.2	N/A	7	0.0	N/A
122005PBP-N037	4	-0.3	N/A	8	0.0	N/A
122005PBP-N038	4	-0.3	N/A	11	-0.3	N/A
122005PBP-N039	4	-0.3	N/A	11	-0.3	N/A
122005PBP-N040	4	1.2	N/A	11	-0.3	N/A
122005PBP-N041	4	-0.3	N/A	11	1.2	N/A
122005PBP-N042	4	-0.3	N/A	11	-0.3	N/A
122005PBP-N043	4	1.2	N/A	11	4.2	N/A
122005PBP-N044	4	1.2	N/A	11	1.2	N/A
122005PBP-N045	4	2.7	N/A	11	-0.3	N/A
122005PBP-N046	4	-0.3	N/A	11	-0.3	N/A
122005PBP-N047	4	-0.3	N/A	11	-0.3	N/A
122005PBP-N048	4	1.2	N/A	11	1.2	N/A
122005PBP-N049	4	2.7	N/A	11	-0.3	N/A
122005PBP-N050	4	1.2	N/A	11	2.7	N/A
122005PBP-N051	13	-0.3	N/A	13	-0.3	N/A
122005PBP-N052	13	-0.3	N/A	13	-0.3	N/A
122005PBP-N053	13	-0.3	N/A	13	1.2	N/A
122005PBP-N054	13	-0.3	N/A	13	-0.3	N/A
122005PBP-N055	13	-0.3	N/A	13	1.2	N/A
122005PBP-N056	13	1.2	N/A	13	-0.3	N/A
122005PBP-N057	13	-0.3	N/A	13	-0.3	N/A
122005PBP-N058	13	-0.3	N/A	13	-0.3	N/A
122005PBP-N059	13	1.2	N/A	13	-0.3	N/A
122005PBP-N060	13	4.2	N/A	13	1.2	N/A
122005PBP-N061	13	1.2	N/A	13	-0.3	N/A

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Biased Removable Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N062	16	-1.2	N/A	16	1.8	N/A
122005PBP-N063	16	-1.2	N/A	16	-1.2	N/A
122005PBP-N064	16	-1.2	N/A	16	-1.2	N/A
122005PBP-N065	16	-1.2	N/A	16	-1.2	N/A
122005PBP-N066	16	-1.2	N/A	16	-1.2	N/A
122005PBP-N067	16	-1.2	N/A	16	-1.2	N/A
122005PBP-N068	16	0.3	N/A	16	1.8	N/A
122005PBP-N069	16	-1.2	N/A	16	0.3	N/A
122005PBP-N070	16	-1.2	N/A	16	-1.2	N/A

Comments:

42

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	

Survey Area: 5	Survey Unit: 122005	Building: 122

Description: Building 122 Interior Media Sample Package

Biased Total Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N001	1	3.5	N/A	2	44.0	N/A
122005PBP-N002	1	19.2	N/A	2	17.7	N/A
122005PBP-N003	2	29.1	N/A	2	20.3	N/A
122005PBP-N004	1	21.9	N/A	1	25.2	N/A
122005PBP-N005	2	8.9	N/A	2	8.9	N/A
122005PBP-N006	1	15.9	N/A	1	31.2	N/A
122005PBP-N007	2	11.5	N/A	2	20.3	N/A
122005PBP-N008	1	15.9	N/A	1	46.8	N/A
122005PBP-N009	2	14.6	N/A	1	43.6	N/A
122005PBP-N010	1	15.9	N/A	2	29.1	N/A
122005PBP-N011	2	17.7	N/A	1	37.6	N/A
122005PBP-N012	1	25.2	N/A	2	23.4	N/A
122005PBP-N013	1	39.0	N/A	1	21.9	N/A
122005PBP-N014	2	29.1	N/A	2	27.8	N/A
122005PBP-N015	1	19.2	N/A	1	25.2	N/A
122005PBP-N016	2	46.6	N/A	2	26.5	N/A
122005PBP-N017	1	25.2	N/A	1	40.4	N/A
122005PBP-N018	6	27.7	N/A	6	12.3	N/A
122005PBP-N019	5	-5.6	N/A	6	15.4	N/A
122005PBP-N020	6	18.6	N/A	6	18.6	N/A
122005PBP-N023	6	21.3	N/A	6	0.5	N/A
122005PBP-N024	5	1.0	N/A	6	15.4	N/A
122005PBP-N025	6	0.5	N/A	6	-2.7	N/A
122005PBP-N029	6	15.4	N/A	6	6.4	N/A
122005PBP-N030	6	-2.7	N/A	5	16.5	N/A
122005PBP-N033	6	3.2	N/A	6	3.2	N/A
122005PBP-N034	5	19.8	N/A	6	-5.8	N/A

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Biased Total Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N035	5	29.1	N/A	6	9.6	N/A
122005PBP-N036	5	7.1	N/A	5	10.4	N/A
122005PBP-N037	5	10.4	N/A	5	7.1	N/A
122005PBP-N038	6	0.5	N/A	9	13.2	N/A
122005PBP-N039	6	0.5	N/A	9	32.0	N/A
122005PBP-N040	6	0.5	N/A	9	16.5	N/A
122005PBP-N041	6	9.6	N/A	10	26.6	N/A
122005PBP-N042	6	0.5	N/A	10	51.9	N/A
122005PBP-N043	6	9.6	N/A	9	47.9	N/A
122005PBP-N044	6	0.5	N/A	9	19.8	N/A
122005PBP-N045	6	-2.7	N/A	9	19.8	N/A
122005PBP-N046	5	10.4	N/A	9	72.8	N/A
122005PBP-N047	6	0.5	N/A	10	7.4	N/A
122005PBP-N048	6	0.5	N/A	9	19.8	N/A
122005PBP-N049	6	-2.7	N/A	10	17.0	N/A
122005PBP-N050	6	9.6	N/A	9	25.9	N/A
122005PBP-N051	12	-5.9	N/A	12	9.2	N/A
122005PBP-N052	12	23.9	N/A	12	11.9	N/A
122005PBP-N053	12	11.9	N/A	12	6.1	N/A
122005PBP-N054	12	20.7	N/A	12	27.0	N/A
122005PBP-N055	12	27.0	N/A	12	15.0	N/A
122005PBP-N056	12	-5.9	N/A	12	9.2	N/A
122005PBP-N057	12	-2.8	N/A	12	38.5	N/A
122005PBP-N058	12	23.9	N/A	12	3.0	N/A
122005PBP-N059	12	29.6	N/A	12	11.9	N/A
122005PBP-N060	12	11.9	N/A	12	6.1	N/A
122005PBP-N061	12	-5.9	N/A	12	32.7	N/A

Survey Area: 5	Survey Unit: 122005	Building: 122

Description: Building 122 Interior Media Sample Package

Biased Total Surface Activity Data Sheet

	PRE			POST		
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)
122005PBP-N062	15	3.6	N/A	15	-1.5	N/A
122005PBP-N063	14	3.0	N/A	14	1.6	N/A
122005PBP-N064	14	10.5	N/A	14	15.0	N/A
122005PBP-N065	15	-6.6	N/A	15	-1.5	N/A
122005PBP-N066	14	1.6	N/A	14	15.0	N/A
122005PBP-N067	15	3.6	N/A	15	39.3	N/A
122005PBP-N068	14	-7.3	N/A	14	6.1	N/A
122005PBP-N069	15	18.9	N/A	15	24.0	N/A
122005PBP-N070	14	1.6	N/A	14	10.5	N/A

Comments:

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Media Samples Data Sheet

Site Sample ID / Nbr --- Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in²)	Sample Nuclide (dpm/100cm²)	Sample Nuclide MDA (dpm/100cm²)	Sample Total (dpm/100cm²)
04S0182-051.001 1 B122 Entry and Room 135 Samples 1, 2, 3	U234	0.2830	0.3150	85.20	24.5	34	38	
	U235	0.0820	0.0392			10	5	Uranium
	U238	0.2830	0.3150			34	38	78
	Pu239/240	0.0000	0.3910			0	47	Transuranic
	Am241	0.0000	0.0543			0	7	0
04S0182-052.001 4 B122 Room 135 Samples 4, 5, 6	U234	0.6180	0.3290	80.40	24.5	70	37	
	U235	0.0750	0.0449			9	5	Uranium
	U238	0.6180	0.3290			70	37	148
	Pu239/240	0.0000	0.4118			0	47	Transuranic
	Am241	0.0000	0.0572			0	7	0
04S0182-053.001 7 Building 122 Rooms 100 and 123A Samples 7, 8, 10	U234	0.2920	0.3060	89.90	24.5	37	39	
	U235	0.0517	0.0421			7	5	Uranium
	U238	0.2920	0.3060			37	39	80
	Pu239/240	0.0000	0.3586			0	45	Transuranic
	Am241	0.0000	0.0498			0	6	0
04S0182-054.001 9 Building 122 Room 123 and 125 Samples 9, 11	U234	0.4430	0.2520	91.20	24.5	57	32	
	U235	0.1140	0.0759			15	10	Uranium
	U238	0.4430	0.2520			57	32	128
	Pu239/240	0.0000	0.4111			0	53	Transuranic
	Am241	0.0000	0.0571			0	7	0
04S0182-055.001 12 Building 122 rooms 123 and 124 Samples 12, 13, 14	U234	0.7950	0.2990	84.40	24.5	94	35	
	U235	0.1050	0.0549			12	7	Uranium
	U238	0.7950	0.2990			94	35	201
	Pu239/240	0.0000	0.4061			0	48	Transuranic
	Am241	0.0000	0.0564			0	7	0
04S0182-056.001 15 Building 122 Room 123 Samples 15, 16, 17	U234	0.7680	0.3670	74.00	24.5	80	38	
	U235	0.1310	0.1140			14	12	Uranium
	U238	0.7680	0.3670			80	38	173
	Pu239/240	0.0000	0.4702			0	49	Transuranic
	Am241	0.0000	0.0653			0	7	0
04S0182-057.001 18 Building 122 Room 119 Samples 18, 19, 20	U234	0.4610	0.3000	95.90	24.5	62	40	
	U235	0.0000	0.0446			0	6	Uranium
	U238	0.4610	0.3000			62	40	124
	Pu239/240	0.1584	0.2743			21	37	Transuranic
	Am241	0.0220	0.0381			3	5	24

Comments:

47

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Media Samples Data Sheet

Site Sample ID / Nbr --- Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in²)	Sample Nuclide (dpm/100cm²)	Sample Nuclide MDA (dpm/100cm²)	Sample Total (dpm/100cm²)
04S0182-059.001 23 Building 122 Room 119and 127A Samples 23, 24, 25	U234	0.4140	0.3300	92.70	24.5	54	43	
	U235	0.0481	0.0692			6	9	Uranium
	U238	0.4140	0.3300			54	43	114
	Pu239/240	0.3895	0.3355			51	44	Transuranic
	Am241	0.0541	0.0466			7	6	58
04S0182-061.001 29 Building 122 Room 127 Samples 29, 30	U234	0.5820	0.2950	111.60	24.5	91	46	
	U235	0.0920	0.0436			14	7	Uranium
	U238	0.5820	0.2950			91	46	197
	Pu239/240	0.0000	0.3492			0	55	Transuranic
	Am241	0.0000	0.0485			0	8	0
04S0182-063.001 33 Building 122 Rooms 119 and 127A Samples 33, 34	U234	0.5180	0.3800	72.40	24.5	53	39	
	U235	0.0643	0.0425			7	4	Uranium
	U238	0.5180	0.3800			53	39	112
	Pu239/240	0.3564	0.3319			36	34	Transuranic
	Am241	0.0495	0.0461			5	5	41
04S0182-064.001 35 Building 122 Room 119 Samples 35, 36, 37	U234	0.4800	0.4370	82.40	24.5	56	51	
	U235	0.0000	0.0760			0	9	Uranium
	U238	0.4800	0.4370			56	51	111
	Pu239/240	0.0000	0.4190			0	49	Transuranic
	Am241	0.0000	0.0582			0	7	0
04S0182-065.001 38 Building 122 Rooms 114, 125, and 123A Samples 38, 39, 40	U234	0.4430	0.3060	96.50	24.5	60	42	
	U235	0.0000	0.0530			0	7	Uranium
	U238	0.4430	0.3060			60	42	120
	Pu239/240	0.0000	0.4262			0	58	Transuranic
	Am241	0.0000	0.0592			0	8	0
04S0182-066.001 41 Building 122 Room 110 and 112 Samples 41, 42, 43	U234	0.6580	0.3090	93.80	24.5	87	41	
	U235	0.0337	0.0372			4	5	Uranium
	U238	0.6580	0.3090			87	41	178
	Pu239/240	0.0000	0.4219			0	56	Transuranic
	Am241	0.0000	0.0586			0	8	0
04S0182-067.001 44 Building 122 Rooms 112, 100, 118 Samples 44, 45, 46, 47	U234	0.5300	0.2650	90.50	24.5	67	34	
	U235	0.0000	0.0542			0	7	Uranium
	U238	0.5300	0.2650			67	34	135
	Pu239/240	0.0000	0.3996			0	51	Transuranic
	Am241	0.0000	0.0555			0	7	0

Survey Area: 5	Survey Unit: 122005	Building: 122
Description: Building 122 Interior Media Sample Package		

Media Samples Data Sheet

Site Sample ID / Nbr --- Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in^2)	Sample Nuclide ($dpm/100cm^2$)	Sample Nuclide MDA ($dpm/100cm^2$)	Sample Total ($dpm/100cm^2$)
04S0182-068.001 48 Building 122 Room 115, 116, and 117 Samples 48, 49, 50	U234	0.4080	0.3070	108.10	24.5	62	47	
	U235	0.0000	0.0840			0	13	Uranium
	U238	0.4080	0.3070			62	47	124
	Pu239/240	0.0000	0.3557			0	54	Transuranic
	Am241	0.0000	0.0494			0	8	0
04S0244-012.001 51 Building 122 Media samples 51-53	U234	1.2800	0.5330	54.60	24.5	98	41	
	U235	0.2630	0.0822			20	6	Uranium
	U238	1.2800	0.5330			98	41	217
	Pu239/240	0.0000	0.5911			0	45	Transuranic
	Am241	0.0000	0.0821			0	6	0
04S0244-013.001 54 Building 122 Media Samples 54-56	U234	1.2600	0.4070	86.80	24.5	154	50	
	U235	0.2410	0.0586			29	7	Uranium
	U238	1.2600	0.4070			154	50	337
	Pu239/240	0.0000	0.5551			0	68	Transuranic
	Am241	0.0000	0.0771			0	9	0
04S0244-014.001 57 Building 122 Media Samples 57-59	U234	1.0800	0.3100	116.90	24.5	177	51	
	U235	0.1610	0.0547			26	9	Uranium
	U238	1.0800	0.3100			177	51	381
	Pu239/240	0.0000	0.4198			0	69	Transuranic
	Am241	0.0000	0.0583			0	10	0
04S0244-015.001 60 Building 122 Media Samples 60-61	U234	1.4200	0.4910	61.90	24.5	124	43	
	U235	0.2580	0.0881			22	8	Uranium
	U238	1.4200	0.4910			124	43	269
	Pu239/240	0.0000	0.6329			0	55	Transuranic
	Am241	0.0000	0.0879			0	8	0
04S0354-010.001 62 Building 122 Media Samples 122062-64	U234	0.0000	1.4100	17.00	24.5	0	34	
	U235	0.0000	0.2420			0	6	Uranium
	U238	0.0000	1.4100			0	34	0
	Pu239/240	0.0000	1.3680			0	33	Transuranic
	Am241	0.0000	0.1900			0	5	0
04S0354-011.001 65 Building 122 Media Samples 122065-067	U234	0.0000	1.1000	27.40	24.5	0	42	
	U235	0.0000	0.1750			0	7	Uranium
	U238	0.0000	1.1000			0	42	0
	Pu239/240	0.0000	0.9432			0	36	Transuranic
	Am241	0.0000	0.1310			0	5	0

Survey Area: 5	Survey Unit: 122005	Building: 122

Description: Building 122 Interior Media Sample Package

Media Samples Data Sheet

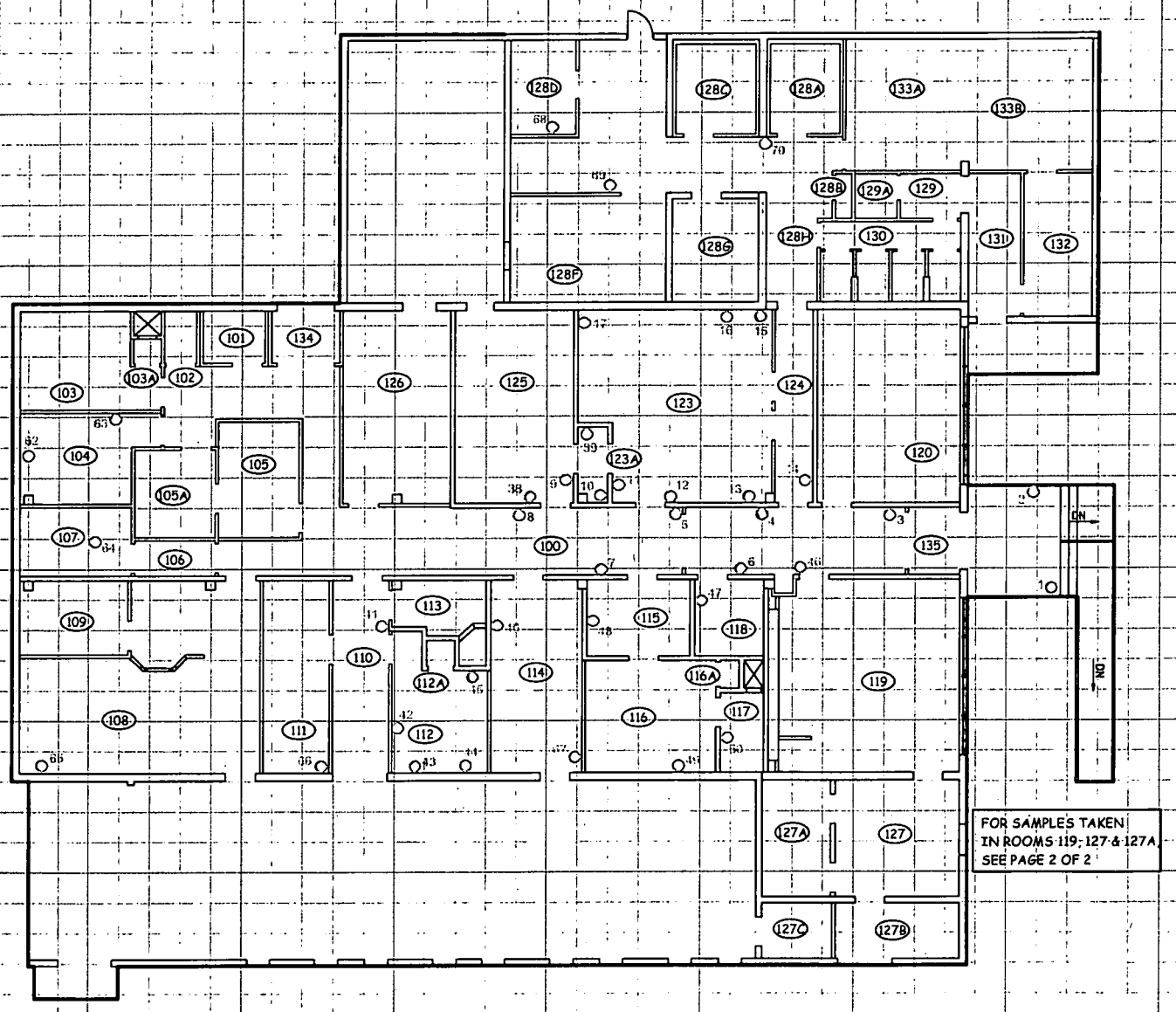
Site Sample ID / Nbr --- Description	Nuclide	Sample (pCi/g)	Sample MDA (pCi/g)	Weight (g)	Surface Area (in^2)	Sample Nuclide ($dpm/100cm^2$)	Sample Nuclide MDA ($dpm/100cm^2$)	Sample Total ($dpm/100cm^2$)
04S0354-012.001 68 Building 122 Media Samples 122068-070	U234	0.0000	1.3100	20.20	24.5	0	37	
	U235	0.0000	0.2130			0	6	Uranium
	U238	0.0000	1.3100			0	37	0
	Pu239/240	0.0000	1.2312			0	35	Transuranic
	Am241	0.0000	0.1710			0	5	0

50

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122005** **Classification: 1**
Building: 122
Survey Unit Description: Building 122 Interior Media Sample Package
Total Area: N/A **Total Floor Area: N/A**

Media Sample Map



Building 122

SURVEY MAP LEGEND

- Smear & TSA Location
- Wall Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

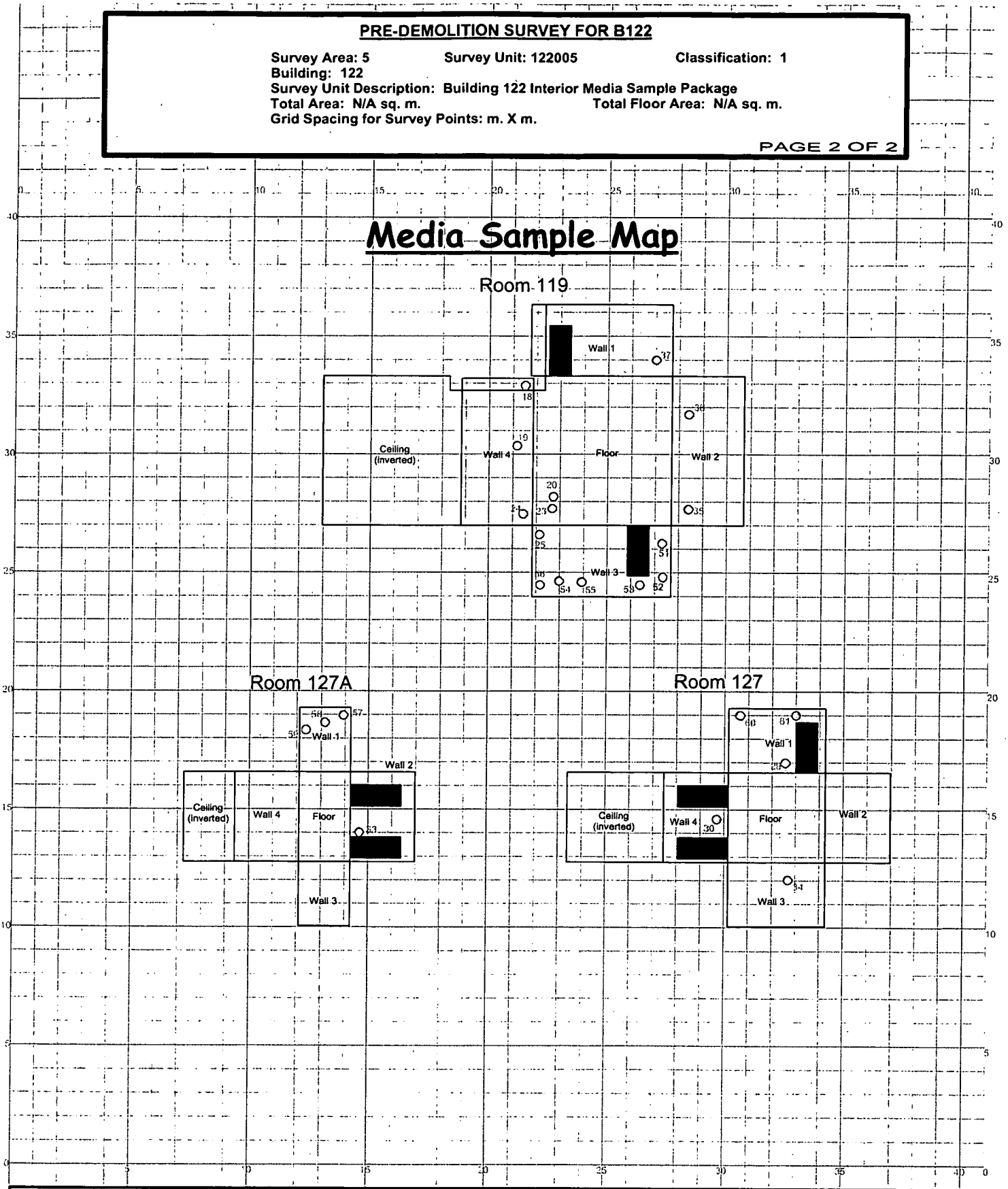
KAISER HILL

MAP ID: 02-0888/Media_122 Mar. 10, 2004

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122005** **Classification: 1**
Building: 122
Survey Unit Description: Building 122 Interior Media Sample Package
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**
Grid Spacing for Survey Points: m. X m.

Media Sample Map



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

CH2MHILL Communications Group

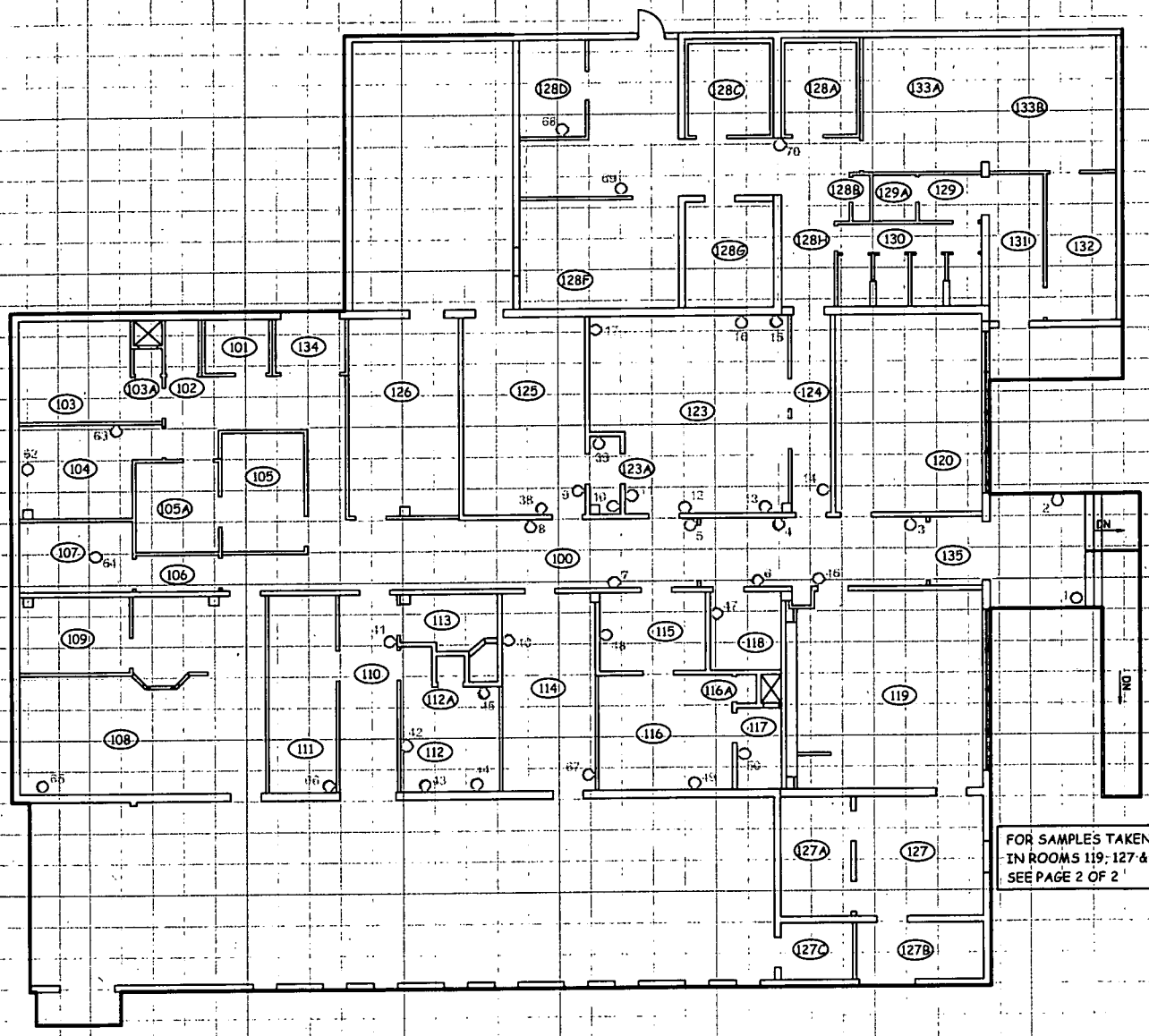
KAISER HILL

MAP ID: 02-0888/MedSam_05 **July 27, 2004**

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122005** **Classification: 1**
Building: 122
Survey Unit Description: Building 122 Interior Media Sample Package
Total Area: N/A **Total Floor Area: N/A**

Media Sample Map



FOR SAMPLES TAKEN IN ROOMS 119, 127 & 127A SEE PAGE 2 OF 2

Building 122

SURVEY MAP LEGEND

- (#) Smear & TSA Location
- O Wall Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

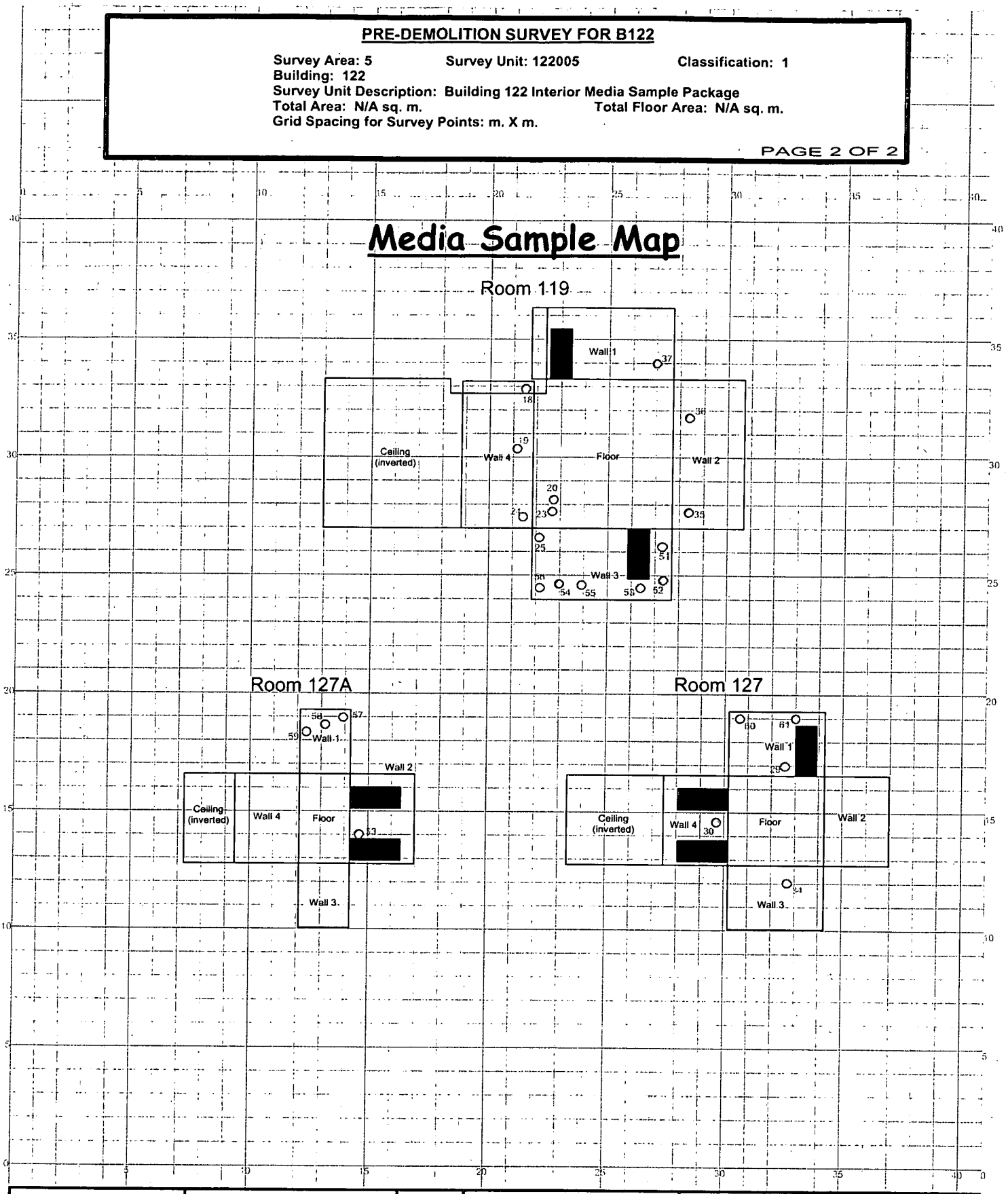
KAISER HILL

MAP ID: 02-0888/Media_122 Mar. 10, 2004

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122005** **Classification: 1**
Building: 122
Survey Unit Description: Building 122 Interior Media Sample Package
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**
Grid Spacing for Survey Points: m. X m.

Media Sample Map



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER-HILL

MAP ID: 02-0888/MedSam_05 July 27, 2004

SURVEY UNIT 122005
RADIOLOGICAL DATA SUMMARY - ELEVATED MEDIA

Survey Unit Description: B122, Rooms 119 and 127A

SURVEY UNIT 122005
Media Data Summary

PRE MEDIA MEASUREMENTS

Total Surface Activity Measurements

	7 Number Required	7 Number Obtained	
MIN	-20.2		dpm/100 cm^2
MAX	634.0		dpm/100 cm^2
MEAN	102.8		dpm/100 cm^2
STD DEV	236.3		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	7 Number Required	7 Number Obtained	
MIN	-0.3		dpm/100 cm^2
MAX	11.8		dpm/100 cm^2
MEAN	6.6		dpm/100 cm^2
STD DEV	3.8		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

POST MEDIA MEASUREMENTS

Total Surface Activity Measurements

	7 Number Required	7 Number Obtained	
MIN	-6.5		dpm/100 cm^2
MAX *	93.3		dpm/100 cm^2
MEAN	36.8		dpm/100 cm^2
STD DEV	39.0		dpm/100 cm^2
TRANSURANIC DCGL$_W$	100		dpm/100 cm^2

Removable Activity Measurements

	7 Number Required	7 Number Obtained	
MIN	2.7		dpm/100 cm^2
MAX	14.8		dpm/100 cm^2
MEAN	5.3		dpm/100 cm^2
STD DEV	4.4		dpm/100 cm^2
TRANSURANIC DCGL$_W$	20		dpm/100 cm^2

Media Sample Activity

Media Samples	7 Number Required	7 Number Obtained

Total Uranium Results			Total Transuranic Results		
MIN	0.0	dpm/100 cm^2	MIN	246.2	dpm/100 cm^2
MAX	135.6		MAX	703.5	
MEAN	45.2		MEAN	405.6	
STD DEV	78.3		STD DEV	258.3	
DCGL$_W$	5000	dpm/100 cm^2	DCGL$_W$	100	dpm/100 cm^2

56

SURVEY UNIT 122005
PRE AND POST TSA
DATA SUMMARY

Manufacturer:	NE Electra	NE Electra
Model:	DP-6	DP-6
Instrument ID#:	5	6
Serial #:	1665	1512
Cal Due Date:	8/11/04	4/27/04
Analysis Date:	3/2/04	3/2/04
Alpha Eff. (c/d):	0.213	0.221
Alpha Bkgd (cpm)	2.0	2.7
Sample Time (min)	1.5	1.5
LAB Time (min)	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0

PRE TSA MEASUREMENTS

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
21	5	12	56.3	8.7	40.8	22.5
22	6	3.5	15.8	4.7	21.3	-18.0
26	5	2.9	13.6	5.3	24.9	-20.2
27	6	147.6	667.9	10.7	48.4	634.0
28	5	19.5	91.5	7.3	34.3	57.7
31	5	6.1	28.6	7.3	34.3	-5.2
32	6	18.3	82.8	7.3	33.0	49.0
					33.9	Sample LAB Average
					MIN	-20.2
					MAX	634.0
					MEAN	102.8
					SD	236.3
					TRANSURANIC $DCGL_W$	100

POST TSA MEASURMENTS

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1]
21	5	5.0	23.5	6.7	31.5	-1.8
22	6	6.8	30.8	5.3	24.0	5.5
26	5	4	18.8	3	14.1	-6.5
27	6	26.2	118.6	6.1	27.6	93.3
28	5	13.5	63.4	5.3	24.9	38.1
31	5	20.0	93.9	4.7	22.1	68.6
32	6	19.0	86.0	7.3	33.0	60.7
					25.3	Sample LAB Average
					MIN	-6.5
					MAX	93.3
					MEAN	36.8
					SD	39.0
					TRANSURANIC $DCGL_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

*The areas surrounding all sample locations listed above were remediated through wall removal or decontamination.

57

SURVEY UNIT 122005
PRE AND POST RSA
DATA SUMMARY

Manufacturer:	Eberline
Model:	SAC-4
Instrument ID#:	4
Serial #:	924
Cal Due Date:	4/27/04
Analysis Date:	3/2/04
Alpha Eff. (c/d):	0.33
Alpha Bkgd (cpm)	0.1
Sample Time (min)	2
Bkgd Time (min)	10
MDC (dpm/100cm^2)	10.0

PRE RSA MEASUREMENTS

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
21	4	2.0	5.8
22	4	3.0	8.8
26	4	2.0	5.8
27	4	4.0	11.8
28	4	0.0	-0.3
31	4	3.0	8.8
32	4	2.0	5.8
		MIN	-0.3
		MAX	11.8
		MEAN	6.6
		SD	3.8
		Transuranic $DCGL_W$	**20**

POST RSA MEASUREMENTS

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
21	4	2.0	5.8
22	4	1.0	2.7
26	4	1.0	2.7
27	4	5.0	14.8
28	4	2.0	5.8
31	4	1.0	2.7
32	4	1.0	2.7
		MIN	2.7
		MAX	14.8
		MEAN	5.3
		SD	4.4
		Transuranic $DCGL_W$	**20**

59

SURVEY UNIT 122005
Paint and Media Sample Results

LOCATION DESCRIPTION	SAMPLE LOCATION NUMBER	SITE SAMPLE ID	NUCLIDE	pCi/g (2)	MDA (pCi/g)	WEIGHT (g)	SURFACE AREA (in^2)	INDIVIDUAL NUCLIDE ($dpm/100cm^2$) (3)	ESTIMATED MDA ($dpm/100cm^2$) (4)	URANIUM TOTAL ($dpm/100cm^2$)	TRANSURANIC TOTAL ($dpm/100cm^2$)
B122	21 & 22	04S0182-058.001	U-234	0.000	0.380	83.5	24.5	0	45	[redacted]	[redacted]
Room 119			U-235	0.000	0.040			0	5	[redacted]	[redacted]
			U-238	0.000	0.380			0	45	0.0	[redacted]
			Pu-239 Pu-240	1.843	0.336			216	39	[redacted]	[redacted]
			Am-241	0.256	0.047			30	5	[redacted]	246.2
B122	26, 27,	04S0182-060.001	U-234	0.000	0.407	92.0	24.5	0	53	[redacted]	[redacted]
Room 119	& 28		U-235	0.000	0.042			0	5	[redacted]	[redacted]
			U-238	0.000	0.407			0	53	0.0	[redacted]
			Pu-239 Pu-240	4.781	0.379			618	49	[redacted]	[redacted]
			Am-241	0.664	0.053			86	7	[redacted]	703.5
B122	31 & 32	04S0182-062.001	U-234	0.679	0.395	71.1	24.5	68	39	[redacted]	[redacted]
Room 27A			U-235	0.000	0.048			0	5	[redacted]	[redacted]
			U-238	0.679	0.395			68	39	135.6	[redacted]
			Pu-239 Pu-240	2.347	0.385			234	38	[redacted]	[redacted]
			Am-241	0.326	0.054			33	5	[redacted]	266.9
									MIN	0.0	246.2
									MAX	135.6	703.5
									MEAN	45.2	405.6
									SD	78.3	258.3
									$DCGL_W$ =	5000	100

(1) Paint samples collected in B122 Personel Decon room (that were found to be above the limits), were analyzed as grouped composites using the Canberra ISOCS Gamma Spectroscopy system. The areas surrounding all sample locations listed above were remediated through wall removal or decontamination.

(2) Critical Level test criterion were utilized in this analysis. If the net peak area was less than the L_C (critcal level), then a "not detected" or "zero" decision was made. The L_C value is always less than the applicable MDA, but greater than zero.

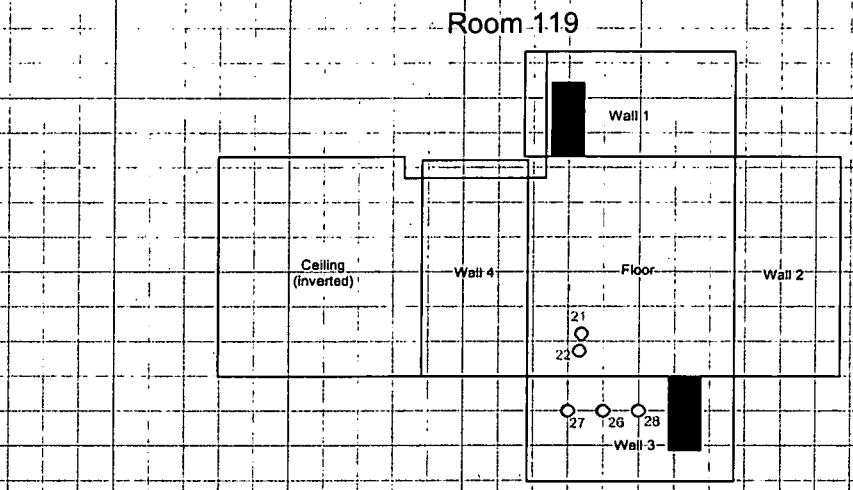
(3) Individual nuclide dpm/100 cm^2 conversion is conservatively based on the composite sample weight. This assumption presumes that the total sample activity from composited samples is located at one, single sample location. This methodology ensures that no single sample location exceeds the applicable $DCGL_W$.

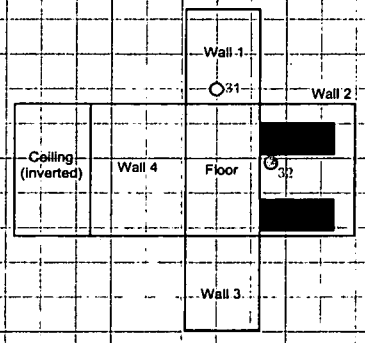
(4) Estimated MDA dpm/100 cm^2 conversion is conservatively based on the composite sample weight.

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122005** **Classification: 1**
Building: 122
Survey Unit Description: Building 122 Interior Media Sample Package
Total Area: N/A sq. m. **Total Floor Area: N/A sq. m.**
Grid Spacing for Survey Points: m. X m.

Elevated Media Sample Map





SURVEY MAP LEGEND

- (#) Smear & TSA Location
- O Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL COMPANY

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):

MAP ID: 02-0888/MedSam_05_3 Aug. 12, 2004

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 0 | Nbr Biased Measurements Required: 60 | Nbr QC Required: 3

Nbr Random Measurements Performed: 0 | Nbr Biased Measurements Performed: 60 | Nbr QC Performed: 3

Alpha

Maximum:	77.3 dpm/100cm²
Minimum:	-27.2 dpm/100cm²
Mean:	26.4 dpm/100cm²
Standard Deviation:	22.1
QC Maximum:	80.4 dpm/100cm²
QC Minimum:	50.3 dpm/100cm²
QC Mean:	62.9 dpm/100cm²
Transuranic DCGL$_W$:	100.0 dpm/100cm²
Transuranic DCGL$_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 0 | Nbr Biased Measurements Required: 60

Nbr Random Measurements Performed: 0 | Nbr Biased Measurements Performed: 60

Alpha

Maximum:	6.1 dpm/100cm²
Minimum:	-1.2 dpm/100cm²
Mean:	0.6 dpm/100cm²
Standard Deviation:	1.7
Transuranic DCGL$_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	07/13/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	T/S
2	711447	07/13/04	Electra	3104	DP-6	09/30/04	0.202	NA	48.0	NA	T/S
3	711447	07/14/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
4	711447	07/14/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	T/S
5	711447	07/15/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
6	711447	07/15/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	T/S
7	712193	07/19/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	Q

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

62

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N001	3	0.8	N/A	
122006PBP-N002	3	-0.6	N/A	
122006PBP-N003	3	-0.6	N/A	
122006PBP-N004	3	0.8	N/A	
122006PBP-N005	3	0.8	N/A	
122006PBP-N006	3	0.8	N/A	
122006PBP-N007	3	-0.6	N/A	
122006PBP-N008	3	2.3	N/A	
122006PBP-N009	3	-0.6	N/A	
122006PBP-N010	3	-0.6	N/A	
122006PBP-N011	5	3.2	N/A	
122006PBP-N012	3	2.3	N/A	
122006PBP-N013	3	-0.6	N/A	
122006PBP-N014	3	0.8	N/A	
122006PBP-N015	3	-0.6	N/A	
122006PBP-N016	3	0.8	N/A	
122006PBP-N017	3	0.8	N/A	
122006PBP-N018	3	-0.6	N/A	
122006PBP-N019	3	2.3	N/A	
122006PBP-N020	3	0.8	N/A	
122006PBP-N021	3	2.3	N/A	
122006PBP-N022	3	-0.6	N/A	
122006PBP-N023	5	-1.2	N/A	
122006PBP-N024	5	-1.2	N/A	
122006PBP-N025	5	-1.2	N/A	
122006PBP-N026	5	0.3	N/A	
122006PBP-N027	5	1.8	N/A	

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N028	5	-1.2	N/A	
122006PBP-N029	5	1.8	N/A	
122006PBP-N030	5	1.8	N/A	
122006PBP-N031	5	0.3	N/A	
122006PBP-N032	5	-1.2	N/A	
122006PBP-N033	5	0.3	N/A	
122006PBP-N034	5	4.6	N/A	
122006PBP-N035	5	4.6	N/A	
122006PBP-N036	5	1.8	N/A	
122006PBP-N037	5	-1.2	N/A	
122006PBP-N038	5	-1.2	N/A	
122006PBP-N039	3	2.3	N/A	
122006PBP-N040	3	0.8	N/A	
122006PBP-N041	3	3.7	N/A	
122006PBP-N042	3	-0.6	N/A	
122006PBP-N043	3	0.8	N/A	
122006PBP-N044	3	0.8	N/A	
122006PBP-N045	5	-1.2	N/A	
122006PBP-N046	5	-1.2	N/A	
122006PBP-N047	5	-1.2	N/A	
122006PBP-N048	5	-1.2	N/A	
122006PBP-N049	5	1.8	N/A	
122006PBP-N050	5	1.8	N/A	
122006PBP-N051	5	-1.2	N/A	
122006PBP-N052	5	-1.2	N/A	
122006PBP-N053	5	1.8	N/A	
122006PBP-N054	5	1.8	N/A	

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Biased Removable Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N055	5	-1.2	N/A	
122006PBP-N056	5	1.8	N/A	
122006PBP-N057	5	6.1	N/A	
122006PBP-N058	5	-1.2	N/A	
122006PBP-N059	5	-1.2	N/A	
122006PBP-N060	5	-1.2	N/A	

Comments:

Survey Area: 5	Survey Unit: 122006	Building: 122
Description: Building 122s All rooms Ventilation System		

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006QRP-N018	7	80.4	N/A	
122006QRP-N054	7	58.0	N/A	
122006QRP-N060	7	50.3	N/A	

66

Survey Area: 5	Survey Unit: 122006	Building: 122
Description: Building 122s All rooms Ventilation System		

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N001	1	-3.4	N/A	
122006PBP-N002	1	47.7	N/A	
122006PBP-N003	1	20.8	N/A	
122006PBP-N004	1	44.5	N/A	
122006PBP-N005	1	2.8	N/A	
122006PBP-N006	1	29.8	N/A	
122006PBP-N007	1	62.5	N/A	
122006PBP-N008	1	53.5	N/A	
122006PBP-N009	1	35.6	N/A	
122006PBP-N010	1	40.1	N/A	
122006PBP-N011	1	53.5	N/A	
122006PBP-N012	1	32.4	N/A	
122006PBP-N013	1	8.7	N/A	
122006PBP-N014	1	-6.1	N/A	
122006PBP-N015	1	14.5	N/A	
122006PBP-N016	1	14.5	N/A	
122006PBP-N017	1	35.6	N/A	
122006PBP-N018	1	77.3	N/A	
122006PBP-N019	1	-3.4	N/A	
122006PBP-N020	2	42.1	N/A	
122006PBP-N021	2	15.9	N/A	
122006PBP-N022	2	25.8	N/A	
122006PBP-N023	2	38.6	N/A	
122006PBP-N024	2	15.9	N/A	
122006PBP-N025	2	6.0	N/A	
122006PBP-N026	2	-1.0	N/A	
122006PBP-N027	2	32.2	N/A	

Survey Area: 5	Survey Unit: 122006	Building: 122
Description: Building 122s All rooms Ventilation System		

Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N028	2	25.8	N/A	
122006PBP-N029	2	32.2	N/A	
122006PBP-N030	2	12.4	N/A	
122006PBP-N031	2	28.7	N/A	
122006PBP-N032	2	18.8	N/A	
122006PBP-N033	2	28.7	N/A	
122006PBP-N034	2	18.8	N/A	
122006PBP-N035	2	15.9	N/A	
122006PBP-N036	2	28.7	N/A	
122006PBP-N037	2	8.9	N/A	
122006PBP-N038	2	18.8	N/A	
122006PBP-N039	2	-8.9	N/A	
122006PBP-N040	2	-13.8	N/A	
122006PBP-N041	2	-20.8	N/A	
122006PBP-N042	4	50.4	N/A	
122006PBP-N043	4	-27.2	N/A	
122006PBP-N044	4	17.6	N/A	
122006PBP-N045	4	20.8	N/A	
122006PBP-N046	4	56.7	N/A	
122006PBP-N047	4	56.7	N/A	
122006PBP-N048	4	47.7	N/A	
122006PBP-N049	4	62.5	N/A	
122006PBP-N050	4	47.7	N/A	
122006PBP-N051	4	26.6	N/A	
122006PBP-N052	4	47.7	N/A	
122006PBP-N053	4	47.7	N/A	
122006PBP-N054	4	53.5	N/A	

L8

Survey Area: 5	Survey Unit: 122006	Building: 122

Description: Building 122s All rooms Ventilation System

Biased Total Surface Activity Data Sheet

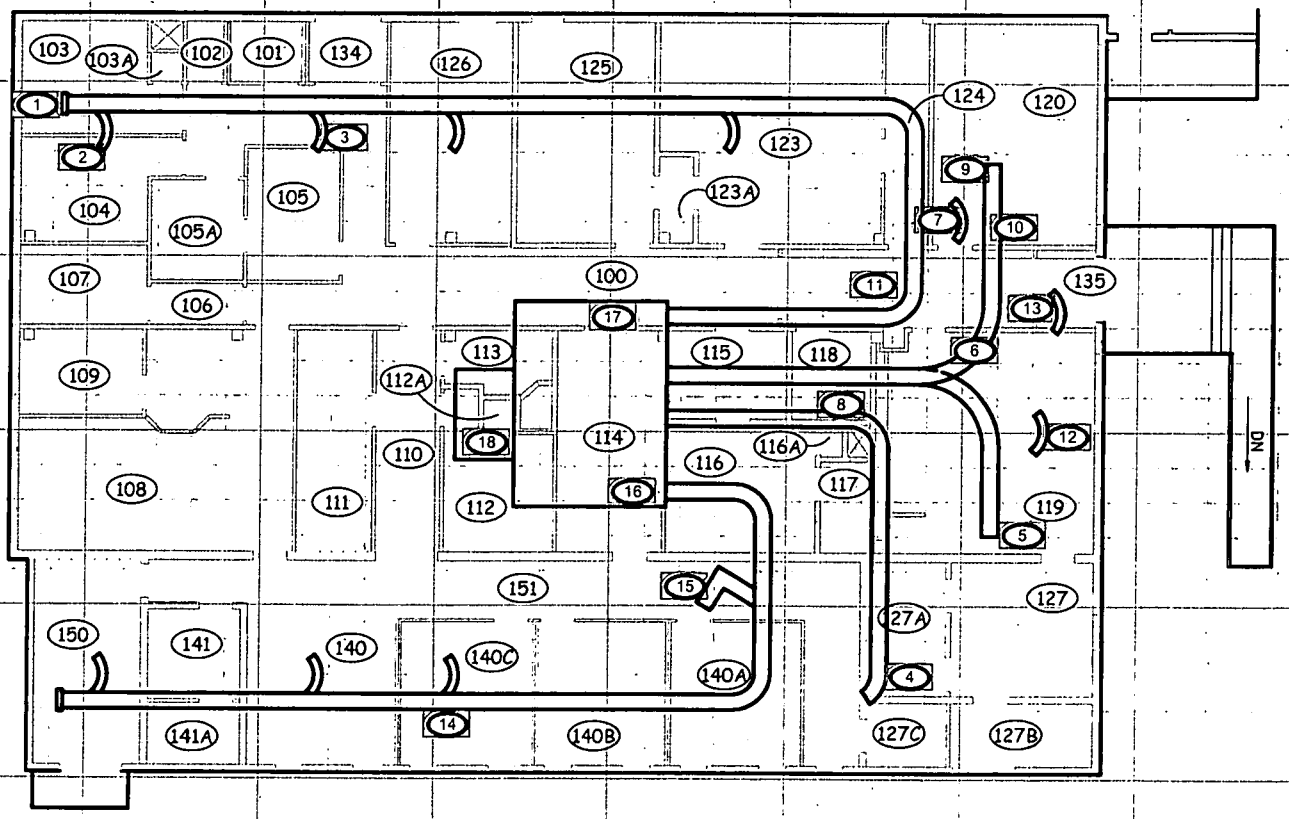
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122006PBP-N055	6	23.8	N/A	
122006PBP-N056	6	7.0	N/A	
122006PBP-N057	6	17.2	N/A	
122006PBP-N058	6	37.6	N/A	
122006PBP-N059	6	10.0	N/A	
122006PBP-N060	6	49.3	N/A	

Comments: Scanned 1 meter around each point. The activity of survey number 122006PRP-N043 was 134.2 Net Alpha dpm/100cm2. Four coupon samples were cut out at the elevated location and analyzed with the OASIS alpha spectroscopy system, all of the elevated activity was natural occuring isotopes and therefore the TSA Alpha gross cpm value of zero was entered into the TSA Data sheet. No further investigation is required. Refer to the RISS characterization packages for the OASIS data.

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122006** **Classification: 2**
Building: 122
Survey Unit Description: Building 122 Ventilation All Rooms
Total Area: N/A **Total Floor Area: N/A**

Building 122 Ventilation (Roof)



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Area

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 & 6

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 **Prepared for:**

CH2MHILL Communications Group

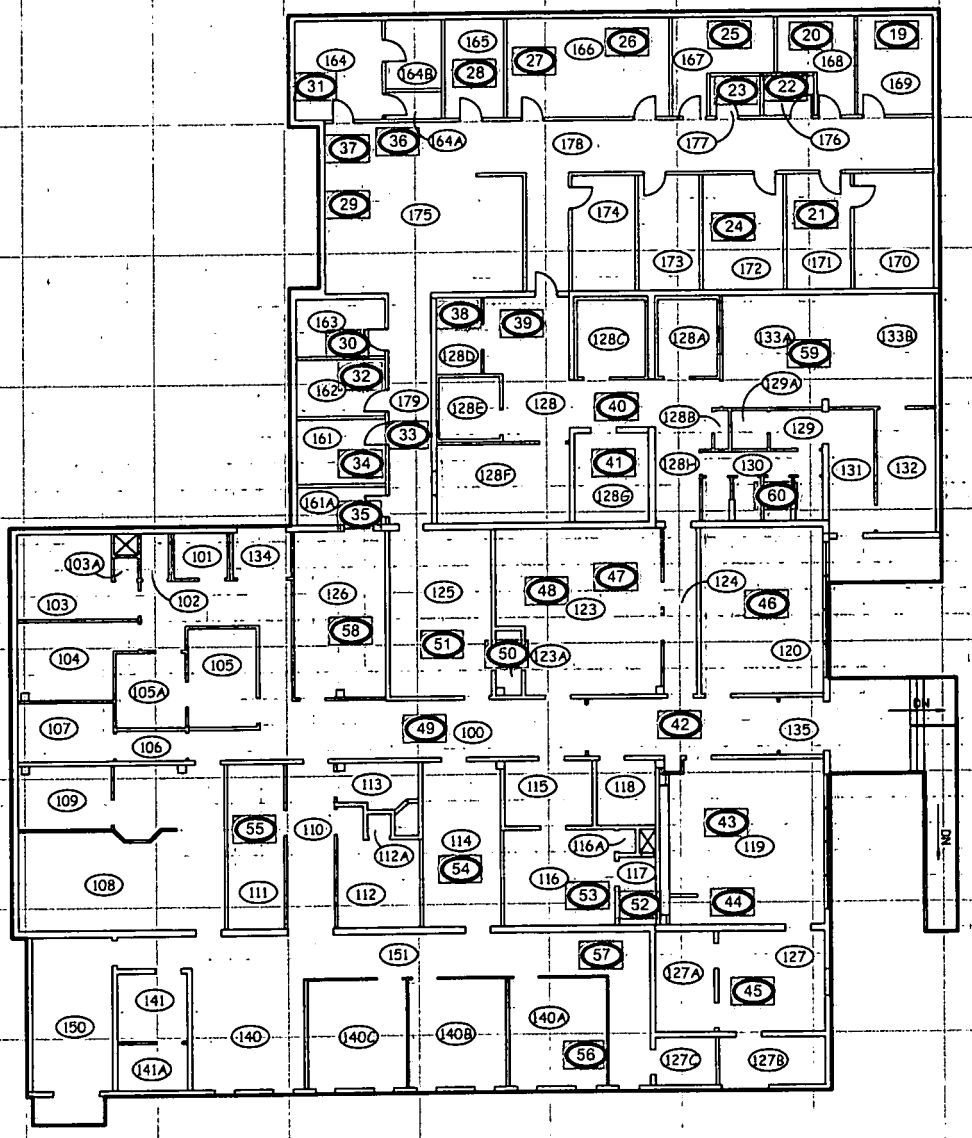
KAISER HILL COMPANY

MAP ID: 02-0888/B122006pg2-SC **July 21, 2004**

PRE-DEMOLITION SURVEY FOR B 122

Survey Area: N/A Survey Unit: 122006 Classification: 2
Building: 122
Survey Unit Description: Building 122 Ventilation All Rooms
Total Area: N/A Total Floor Area: N/A

Building 122 Ventilation



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 30
0 METERS 10

1 inch = 24 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 & 6

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL

MAP ID: 02-0888/B122006pg1-SC July 12, 2004

Survey Area: 5	Survey Unit: 122007	Building: 122

Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B, & 127C, Floor, Walls & Ceiling

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 23
Nbr Random Measurements Performed: 28
Nbr Biased Measurements Required: 0
Nbr Biased Measurements Performed: 1
Nbr QC Required: 2
Nbr QC Performed: 2

Alpha

Maximum:	62.6 dpm/100cm²
Minimum:	-3.4 dpm/100cm²
Mean:	12.5 dpm/100cm²
Standard Deviation:	14.9
QC Maximum:	52.6 dpm/100cm²
QC Minimum:	52.6 dpm/100cm²
QC Mean:	52.6 dpm/100cm²
Transuranic $DCGL_W$:	100.0 dpm/100cm²
Transuranic $DCGL_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 23
Nbr Random Measurements Performed: 28
Nbr Biased Measurements Required: 0
Nbr Biased Measurements Performed: 0

Alpha

Maximum:	5.4 dpm/100cm²
Minimum:	-0.3 dpm/100cm²
Mean:	0.9 dpm/100cm²
Standard Deviation:	1.5
Transuranic $DCGL_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0
Nbr Random Collected: 0
Nbr Biased Required: 0
Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

72

Survey Area: 5	Survey Unit: 122007	Building: 122
Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B, & 127C, Floor, Walls & Ceiling		

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	711447	07/22/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	T
2	511390	07/22/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	T/I
3	711447	07/22/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	Q
4	511390	07/22/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	Q
5	511390	07/21/04	Electra	675	AP-6	12/01/04	0.180	NA	48.0	NA	S
6	511390	07/21/04	Electra	1512	DP-6	11/01/04	0.225	NA	48.0	NA	S
7	702377	07/22/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
8	702377	07/21/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	S
9	702377	07/22/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	S
10	702377	07/22/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
11	701143	07/21/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	S
12	701143	07/22/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	S
13	711447	07/20/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
14	711447	07/20/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
15	711447	07/21/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
16	711447	07/21/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
17	511390	07/21/04	Electra	675	AP-6	12/01/04	0.180	NA	48.0	NA	S
18	511390	07/21/04	Electra	1512	DP-6	11/01/04	0.225	NA	48.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122007	Building: 122
Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B, & 127C, Floor, Walls & Ceiling		

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122007PRP-N001	7	1.1	N/A	
122007PRP-N002	7	1.1	N/A	
122007PRP-N003	7	-0.3	N/A	
122007PRP-N004	7	-0.3	N/A	
122007PRP-N005	7	-0.3	N/A	
122007PRP-N006	7	1.1	N/A	
122007PRP-N007	7	1.1	N/A	
122007PRP-N008	7	5.4	N/A	
122007PRP-N009	7	-0.3	N/A	
122007PRP-N010	7	-0.3	N/A	
122007PRP-N011	7	1.1	N/A	
122007PRP-N012	7	-0.3	N/A	
122007PRP-N013	7	-0.3	N/A	
122007PRP-N014	7	1.1	N/A	
122007PRP-N015	7	2.6	N/A	
122007PRP-N016	7	-0.3	N/A	
122007PRP-N017	7	1.1	N/A	
122007PRP-N018	7	1.1	N/A	
122007PRP-N019	7	1.1	N/A	
122007PRP-N020	7	1.1	N/A	
122007PRP-N021	7	-0.3	N/A	
122007PRP-N022	7	5.4	N/A	
122007PRP-N023	7	1.1	N/A	
122007PRP-N024	7	-0.3	N/A	
122007PRP-N025	7	2.6	N/A	
122007PRP-N026	7	1.1	N/A	
122007PRP-N027	7	-0.3	N/A	
122007PRP-N028	7	-0.3	N/A	

Comments:

Survey Area: 5	Survey Unit: 122007	Building: 122
Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B, & 127C, Floor, Walls & Ceiling		

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122007PRP-N001	1	11.4	N/A	
122007PRP-N002	1	2.5	N/A	
122007PRP-N003	1	8.7	N/A	
122007PRP-N004	1	-0.2	N/A	
122007PRP-N005	1	11.4	N/A	
122007PRP-N006	1	62.6	N/A	
122007QRP-N006	4	52.6	N/A	
122007PRP-N007	1	20.4	N/A	
122007PRP-N008	1	20.4	N/A	
122007PRP-N009	2	5.5	N/A	
122007PRP-N010	1	32.5	N/A	
122007PRP-N011	1	-3.4	N/A	
122007PRP-N012	1	11.4	N/A	
122007PRP-N013	2	35.4	N/A	
122007QRP-N013	3	52.6	N/A	
122007PRP-N014	1	-0.2	N/A	
122007PRP-N015	2	14.4	N/A	
122007PRP-N016	2	2.4	N/A	
122007PRP-N017	2	-3.4	N/A	
122007PRP-N018	1	-0.2	N/A	
122007PRP-N019	1	-3.4	N/A	
122007PRP-N020	1	-3.4	N/A	
122007PRP-N021	1	20.4	N/A	
122007PRP-N022	1	26.7	N/A	
122007PRP-N023	1	11.4	N/A	
122007PRP-N024	1	17.7	N/A	
122007PRP-N025	1	5.6	N/A	

74

Survey Area: 5	Survey Unit: 122007	Building: 122

Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B, & 127C, Floor, Walls & Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122007PRP-N026	1	5.6	N/A	
122007PRP-N027	1	5.6	N/A	
122007PRP-N028	1	11.4	N/A	

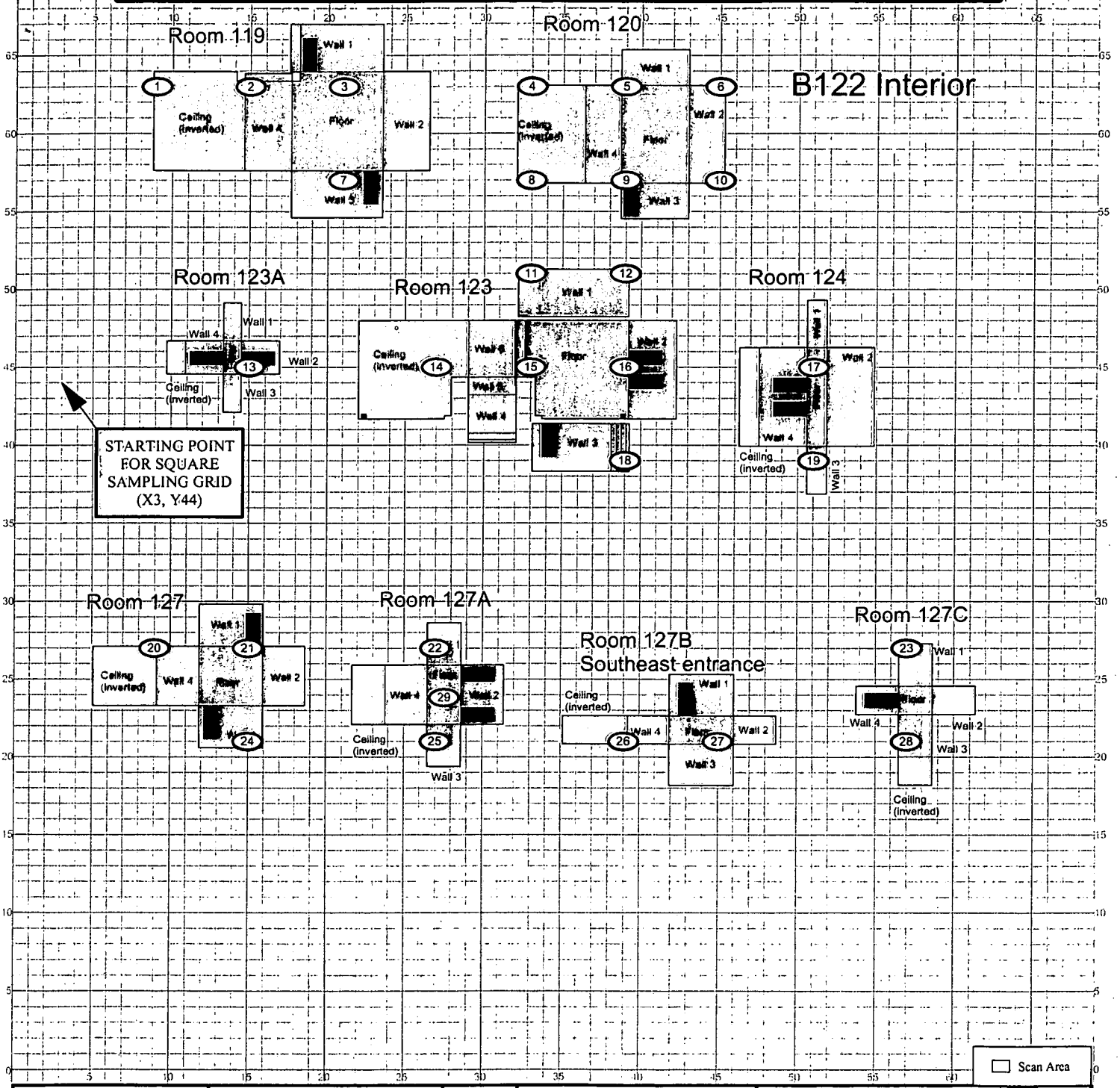
Biased Total Surface Activity Data Sheet

Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122007SBP-N029	2	34.2	N/A	

Comments: The Alpha Net Activity for location 29 was 200.9 dpm/100cm2. An investigation was conducted by collecting eight addtional TSA measurements to determine the average activity of the surrounding square meter. No locations within the square meter were above the DCGLemc (300dpm/100cm2) maximum or the DCGLw (100 dpm/100cm2) average. The square meter average results are reported for location 29. No further investigation is required.

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122007** **Classification: 1**
Building: 122
Survey Unit Description: B122 Interior Rooms, 119, 120, 123, 123A, 124, 127, 127A, 127B & 127C, Floor, Walls & Ceiling
Total Area: 696 sq. m. **Total Floor Area: 150 sq. m.**
Grid Spacing for Survey Points: 6m. X 6m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
5, 6, 8 thru 18

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER HILL

MAP ID: 02-0888/B122007-IN1-SC July 27, 2004

Survey Area: 5	Survey Unit: 122009	Building: 122

Description: Building 122 Rooms 100-117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134, & 135 Floors, Walls, and Ceiling

Rocky Flats Environmental Technology Site
Final Radiological Survey Summary Results

Total Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0 | Nbr QC Required: 2

Nbr Random Measurements Performed: 24 | Nbr Biased Measurements Performed: 1 | Nbr QC Performed: 2

Alpha

Maximum:	61.1 dpm/100cm²
Minimum:	-4.9 dpm/100cm²
Mean:	12.5 dpm/100cm²
Standard Deviation:	13.8
QC Maximum:	11.6 dpm/100cm²
QC Minimum:	5.8 dpm/100cm²
QC Mean:	8.7 dpm/100cm²
Transuranic $DCGL_W$:	100.0 dpm/100cm²
Transuranic $DCGL_{EMC}$:	300.0 dpm/100cm²

Removable Surface Activity Measurements

Nbr Random Measurements Required: 15 | Nbr Biased Measurements Required: 0

Nbr Random Measurements Performed: 24 | Nbr Biased Measurements Performed: 0

Alpha

Maximum:	5.4 dpm/100cm²
Minimum:	-0.3 dpm/100cm²
Mean:	0.7 dpm/100cm²
Standard Deviation:	1.5
Transuranic $DCGL_W$:	20.0 dpm/100cm²

Media Sample Results

Nbr Random Required: 0 | Nbr Biased Required: 0

Nbr Random Collected: 0 | Nbr Biased Collected: 0

Conclusion - A comparison of the random, biased and QC measurement results against the PDSP Table 7-1 Surface Contamination Guideline limits was conducted; the comparison demonstrates that this survey unit passes the criterion specified in the PDSP.

77

Survey Area: 5	Survey Unit: 122009	Building: 122

Description: Building 122 Rooms 100-117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134, & 135 Floors, Walls, and Ceiling

Instrument Data Sheet

Inst/RCT Number	RCT ID	Analysis Date	Instr Model	Instru S/N	Probe Type	Calibration Due Dt	Instru Efficiency		A-Priori MDA (dpm/100cm²)		Survey Type
							Alpha	Beta	Alpha	Beta	
1	511390	07/22/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	T/S
2	711447	07/22/04	Electra	3109	DP-6	12/14/04	0.223	NA	48.0	NA	T/I/S
3	511390	07/22/04	Ludlum 292	99042	NA	10/26/04	0.349	NA	10.0	NA	R
4	711447	07/20/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
5	711447	07/20/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
6	711447	07/21/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
7	711447	07/21/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
8	711447	07/22/04	Electra	673	AP-6	01/06/05	0.176	NA	48.0	NA	S
9	711447	07/22/04	Electra	279	AP-6	10/10/04	0.183	NA	48.0	NA	S
10	511390	07/22/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	Q
11	711447	07/22/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	Q
12	511390	07/21/04	Electra	675	AP-6	12/01/04	0.180	NA	48.0	NA	S
13	511390	07/21/04	Electra	1512	DP-6	11/01/04	0.225	NA	48.0	NA	S
14	702377	07/21/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	S
15	702377	07/22/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	S
16	701143	07/21/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	S
17	701143	07/22/04	Electra	3105	DP-6	11/18/04	0.196	NA	48.0	NA	S
18	511390	07/20/04	Electra	1512	DP-6	11/01/04	0.225	NA	48.0	NA	S
19	511390	07/20/04	Electra	2352	DP-6	11/13/04	0.224	NA	48.0	NA	S

Survey Types: T = Total Surface Activity, Q = TSA QC, S = Scan, R = Removable Surface Activity, I = Investigation

Survey Area: 5	Survey Unit: 122009	Building: 122

Description: Building 122 Rooms 100-117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134, & 135 Floors, Walls, and Ceiling

Random Removable Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122009PRP-N001	3	-0.3	N/A	
122009PRP-N002	3	-0.3	N/A	
122009PRP-N003	3	1.1	N/A	
122009PRP-N004	3	-0.3	N/A	
122009PRP-N005	3	-0.3	N/A	
122009PRP-N006	3	1.1	N/A	
122009PRP-N007	3	1.1	N/A	
122009PRP-N008	3	2.6	N/A	
122009PRP-N009	3	1.1	N/A	
122009PRP-N010	3	1.1	N/A	
122009PRP-N011	3	-0.3	N/A	
122009PRP-N012	3	5.4	N/A	
122009PRP-N013	3	1.1	N/A	
122009PRP-N014	3	1.1	N/A	
122009PRP-N015	3	-0.3	N/A	
122009PRP-N016	3	-0.3	N/A	
122009PRP-N017	3	-0.3	N/A	
122009PRP-N018	3	-0.3	N/A	
122009PRP-N019	3	-0.3	N/A	
122009PRP-N020	3	-0.3	N/A	
122009PRP-N021	3	-0.3	N/A	
122009PRP-N022	3	4.0	N/A	
122009PRP-N023	3	-0.3	N/A	
122009PRP-N024	3	1.1	N/A	

Comments:

Survey Area: 5	Survey Unit: 122009	Building: 122

Description: Building 122 Rooms 100-117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134, & 135 Floors, Walls, and Ceiling

Random/QC Total Surface Activity Data Sheet

Random Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122009PRP-N001	2	7.2	N/A	
122009PRP-N002	2	-1.7	N/A	
122009PRP-N003	2	9.9	N/A	
122009PRP-N004	2	7.2	N/A	
122009PRP-N005	1	7.2	N/A	
122009PRP-N006	2	1.0	N/A	
122009PRP-N007	1	61.1	N/A	
122009QRP-N007	11	5.8	N/A	
122009PRP-N008	1	18.9	N/A	
122009PRP-N009	2	4.1	N/A	
122009PRP-N010	2	4.1	N/A	
122009PRP-N011	2	13.1	N/A	
122009PRP-N012	2	7.2	N/A	
122009PRP-N013	2	4.1	N/A	
122009PRP-N014	2	13.1	N/A	
122009PRP-N015	2	1.0	N/A	
122009PRP-N016	2	9.9	N/A	
122009PRP-N017	2	-4.9	N/A	
122009PRP-N018	2	22.0	N/A	
122009QRP-N018	10	11.6	N/A	
122009PRP-N019	2	13.1	N/A	
122009PRP-N020	2	1.0	N/A	
122009PRP-N021	2	25.2	N/A	
122009PRP-N022	1	9.9	N/A	
122009PRP-N023	2	18.9	N/A	
122009PRP-N024	1	34.2	N/A	

80

Survey Area: 5	Survey Unit: 122009	Building: 122

Description: Building 122 Rooms 100-117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134, & 135 Floors, Walls, and Ceiling

Biased Total Surface Activity Data Sheet

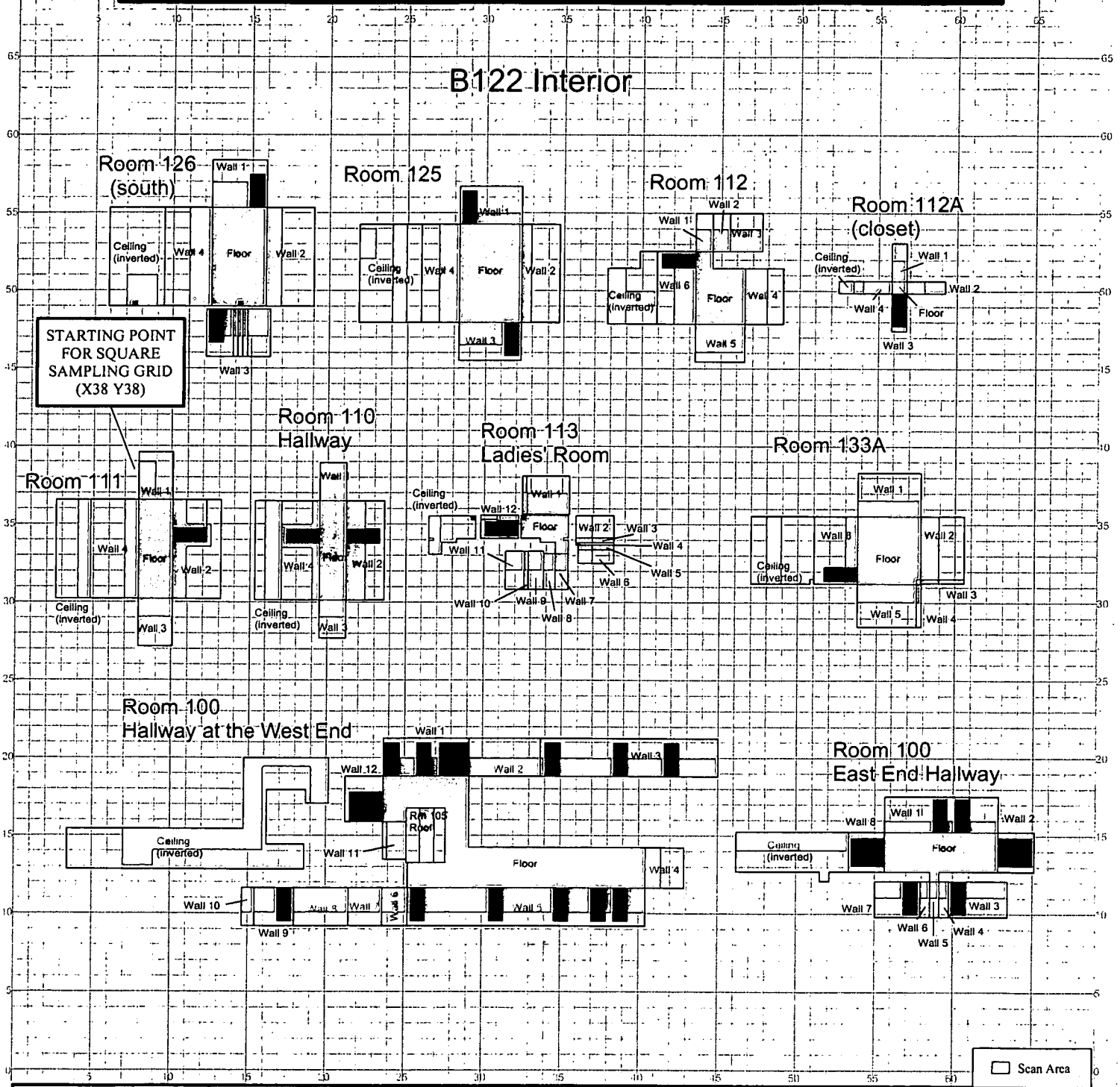
Biased Measurement Location	Inst / RCT Nbr	Net Alpha (dpm/100cm²)	Net Beta (dpm/100cm²)	
122009SBP-N025	2	26.4	N/A	

Comments: The Alpha Net Activity for location 25 was 167.7 dpm/100cm2. An investigation was conducted by collecting eight addtional TSA measurements to determine the average activity of the surrounding square meter. No locations within the square meter were above the DCGLemc (300dpm/100cm2) maximum or the DCGLw (100 dpm/100cm2) average. The square meter average results are reported for location 25. No further investigation is required.

81

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122009** **Classification: 2**
Building: 122
Survey Unit Description: B122 Interior Rooms, 100-118, 103A, 105A, 112A, 116A 125, 126, 128A, 128B, 128H,129, 129A, 130, 133A, 134 & 135 Floor, Walls & Ceiling
Total Area: 2,045 sq. m. **Total Floor Area: 426 sq. m.**
Grid Spacing for Survey Points: 12m. X 12m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 thru 9, 12 thru 19

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

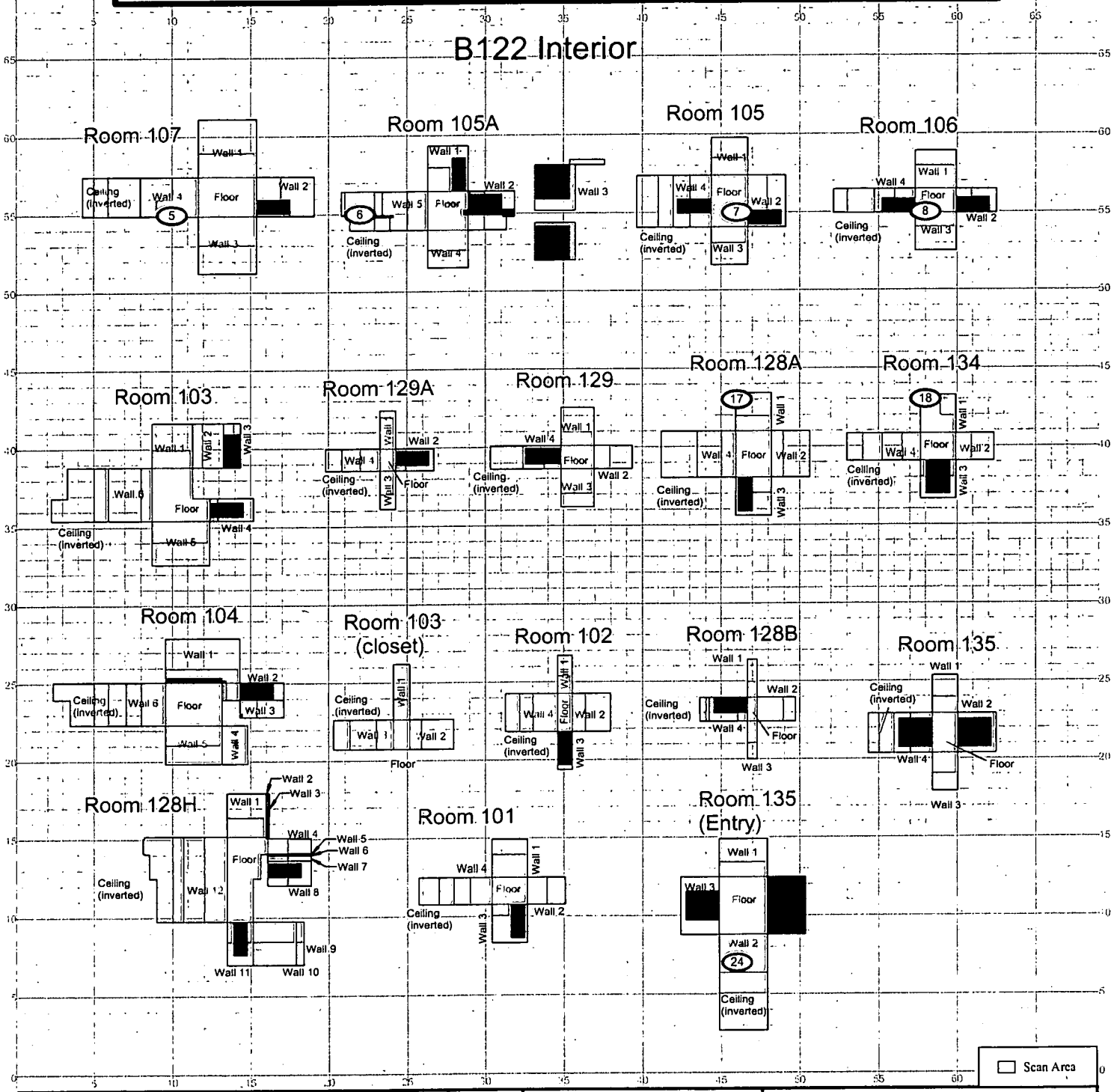
CH2MHILL Communications Group

KAISER HILL

MAP ID: 02-0888/B122009-IN1-SC July 27, 2004

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122009** **Classification: 2**
Building: 122
Survey Unit Description: B122 Interior Rooms, 100-118, 103A, 105A, 112A, 116A 125, 126, 128A, 128B, 128H,129, 129A, 130, 133A, 134 & 135 Floor, Walls & Ceiling
Total Area: 2,045 sq. m. **Total Floor Area: 426 sq. m.**
Grid Spacing for Survey Points: 12m. X 12m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 thru 9, 12 thru 19

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

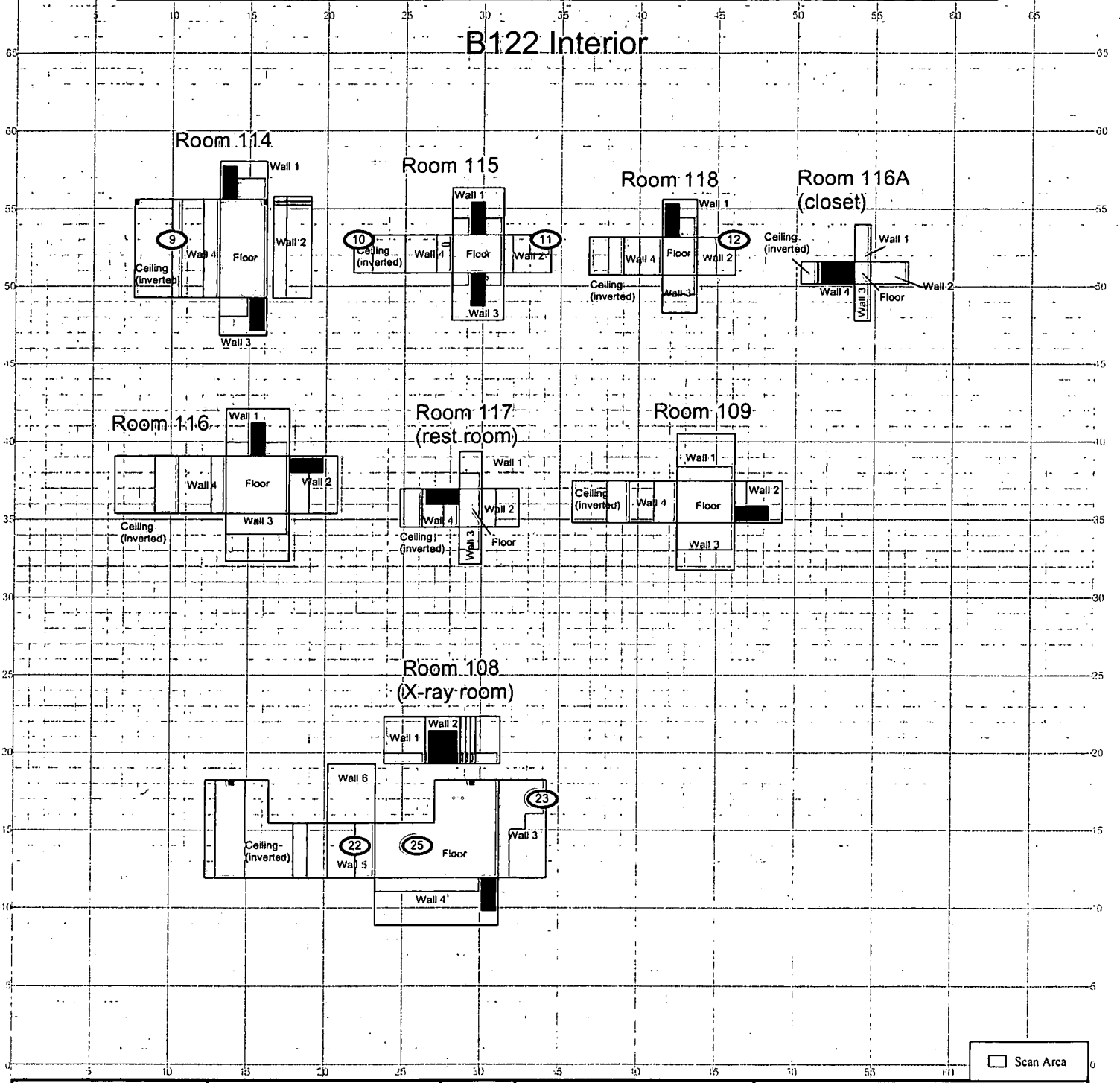
CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 02-0888/B122009-IN2-SC July 27, 2004

PRE-DEMOLITION SURVEY FOR BUILDING 122

Survey Area: 5 **Survey Unit: 122009** **Classification: 2**
Building: 122
Survey Unit Description: B122 Interior Rooms, 100-118, 103A, 105A, 112A, 116A 125, 126, 128A, 128B, 128H,129, 129A, 130, 133A, 134 & 135 Floor, Walls & Ceiling
Total Area: 2,045 sq. m. **Total Floor Area: 426 sq. m.**
Grid Spacing for Survey Points: 12m. X 12m.



SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40
0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 thru 9, 12 thru 19

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

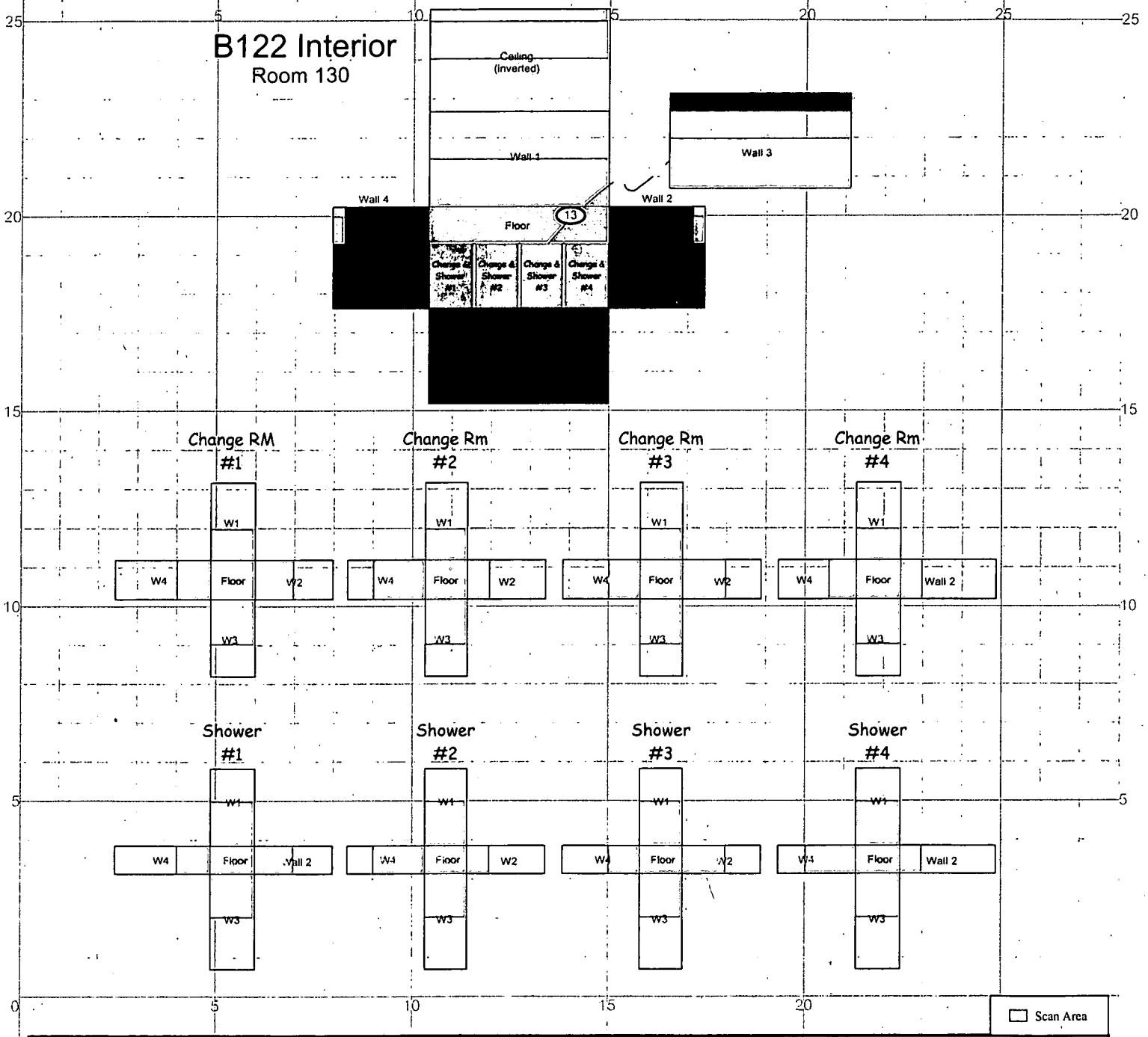
CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 02-0888/B122009-IN3-SC July 27, 2004

PRE-DEMOLITION SURVEY FOR B122

Survey Area: 5 **Survey Unit: 122009** **Classification: 2**
Building: 122
Survey Unit Description: B122 Interior Rooms, 100-118, 103A, 105A, 112A, 116A 125, 126, 128A, 128B, 128H,129, 129A, 130, 133A, 134 & 135 Floor, Walls & Ceiling
Total Area: 2,045 sq. m. **Total Floor Area: 426 sq. m.**
Grid Spacing for Survey Points: 12m. X 12m.



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 15
0 METERS 5

1 inch = 12 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s) & RCT ID #(s):
1, 2, 4 thru 9, 12 thru 19

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

CH2MHILL Communications Group

KAISER-HILL COMPANY

MAP ID: 03-0888/B122009-IN4-SC July 27, 2004

85

ATTACHMENT C

Chemical Data Summaries and Sample Maps

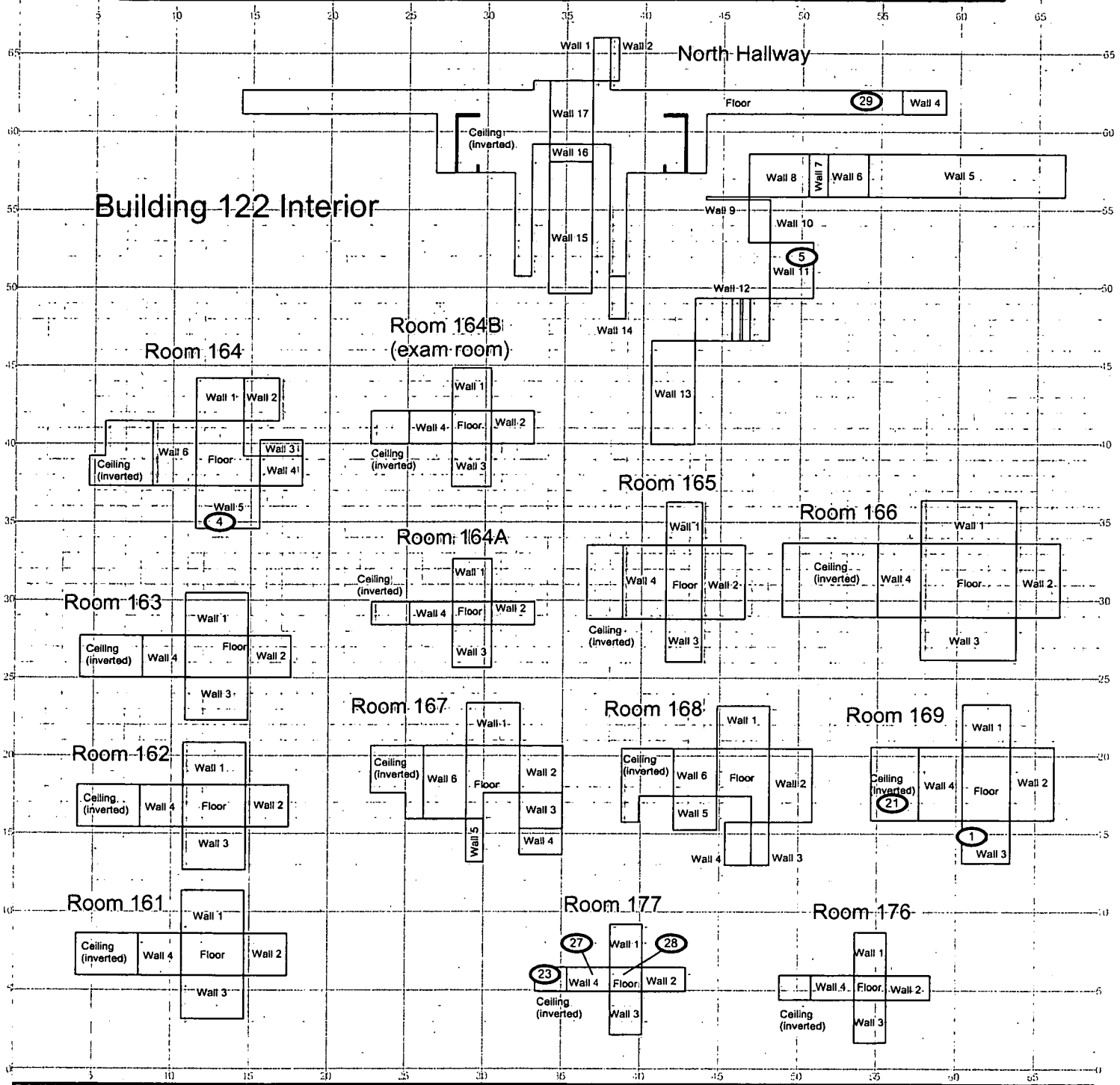
Asbestos Data Summary

Sample Number	Map Sample Location	Room	Material Sampled and Sample Location	Result
Building 122 Interior – RIN 04Z0125				
122-10062003-9-101	1	169	Drywall, inside wall south side	Trace chrysotile, point count <0.25
122-10062003-9-104	4	164	Wall, south side of room	Trace chrysotile, point count <0.25
122-10062003-9-105	5	175	South wall, toward west end, wall board	Trace chrysotile, point count <0.25
122-10062003-9-106	6	140	Wall, south hallway, next to X-ray room and toilet	Trace chrysotile, point count <0.25
122-10062003-9-107	7	140C	Wall board, next to south window	Trace chrysotile, point count <0.25
122-10062003-9-108	8	127C	"Cage" inside the door wall board, north wall	Trace chrysotile, point count <0.25
122-10062003-9-110	10	South hallway	Wall board, inside room, north wall	Non-detect
122-10062003-9-111	11	127C	Paint removed from cinderblock wall	Chrysotile 3%, point count 1.75
122-10062003-9-201	21	169	Ceiling tile	Non-detect
122-10062003-9-202	22	170	Ceiling tile	Non-detect
122-10062003-9-203	23	177	Ceiling	Non-detect
122-10062003-9-206	26	170	Drywall grout above ceiling tile	Non-detect
122-10062003-9-207	27	177	Tile glue (grout)	Non-detect
122-10062003-9-208	28	177	Flooring (linoleum) plus glue	Non-detect
122-10062003-9-209	29	160	Carpet glue	Non-detect
122-10062003-9-210	30	141	Ceiling mud/plaster	Chrysotile TR
122-10062003-9-212	32	141A	Joint compound on steam pipes	Amosite TR
122-10062003-9-213	33	140	Hallway across from 140C, wall, drywall mud	Chrysotile TR
122-10062003-9-215	35	127C	Pie joint mud	Plaster – Chrysotile 7%, Amosite 1%
122-10062003-9-216	36	108	East wall, check for skim coat	Non-detect
122-10062003-9-219	39	108	Pipe insulation, upper SW corner piping system	Chrysotile 7%, Amosite TR
122-10062003-9-220	40	108	Ceiling plaster	Non-detect
122-10062003-9-221	41	108	Drywall mud, SW corner	Chrysotile TR, Point Count <0.25
122-10062003-9-223	43	13	SW corner above panel near ceiling, paint over wood	Non-detect
122-10062003-9-224	44	133	Skim coat near door T132	Non-detect
122-10062003-9-225	45	133	Ceiling tile near SW corner	Non-detect
122-10062003-9-226	46	133	Sound proofing, north wall	Non-detect
122-10062003-9-227	47	130	Piping, west wall	Chrysotile 8%, Amosite TR
122-10062003-9-228	48	128	Piping joint above "B" door	Non-detect
122-10062003-9-229	49	Attic	Textile (braided fabric) on ventilation system, gray in color	Chrysotile 65%
Building 122 Roof - RIN 04Z0174				
122-10212003-9-301	50	Roof	Gray fibrous material	Non-detect
122-10062003-9-302	51	Roof	White Resin	Non-detect

87

CHEMICAL SAMPLE MAP

Building 122
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

Prepared for: KAISER HILL COMPANY

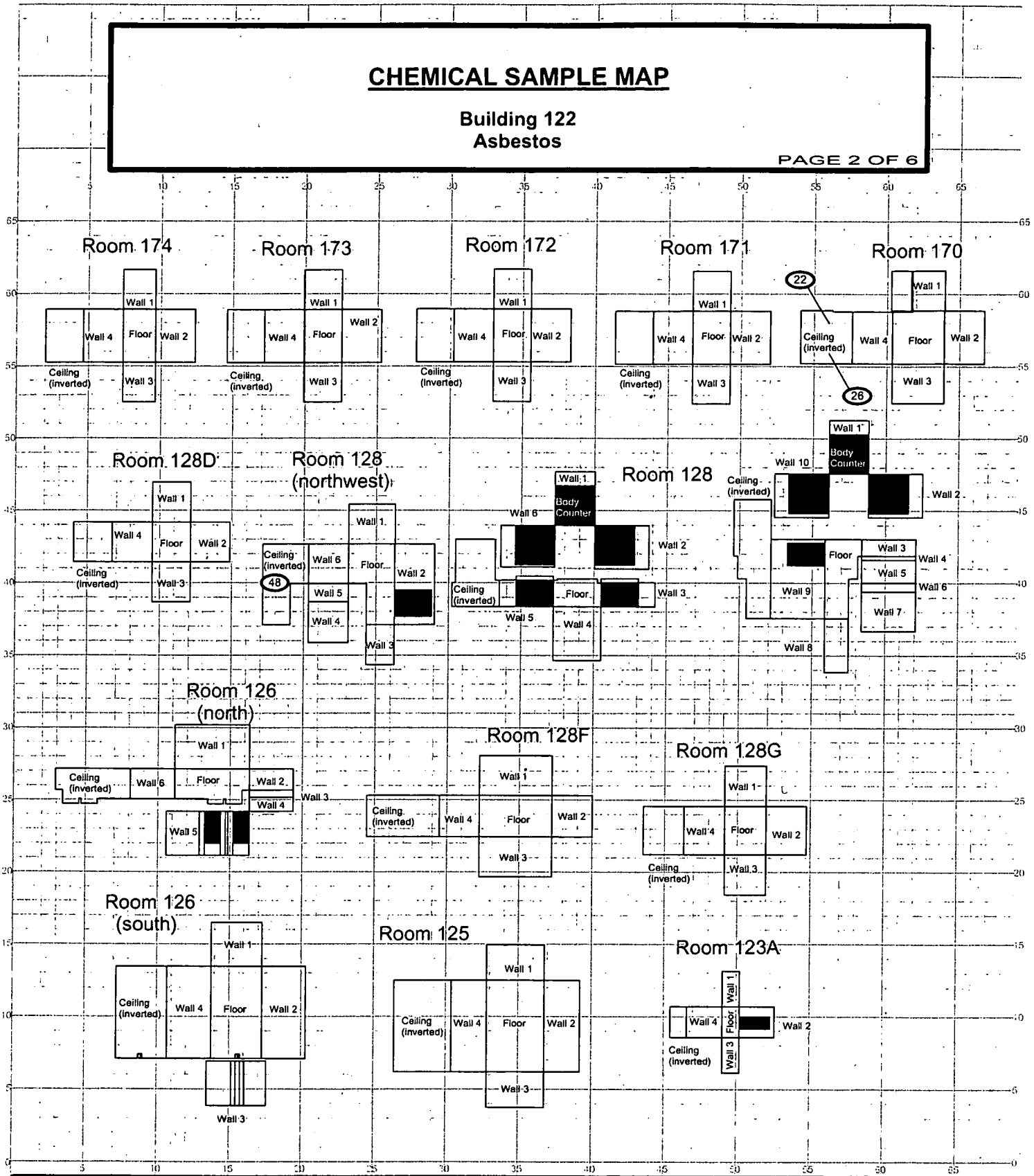
MAP ID: 02-0888/B122-IN1-ASB

Oct. 28, 2003

88

CHEMICAL SAMPLE MAP

Building 122
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

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U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:

CH2MHILL
Communications Group

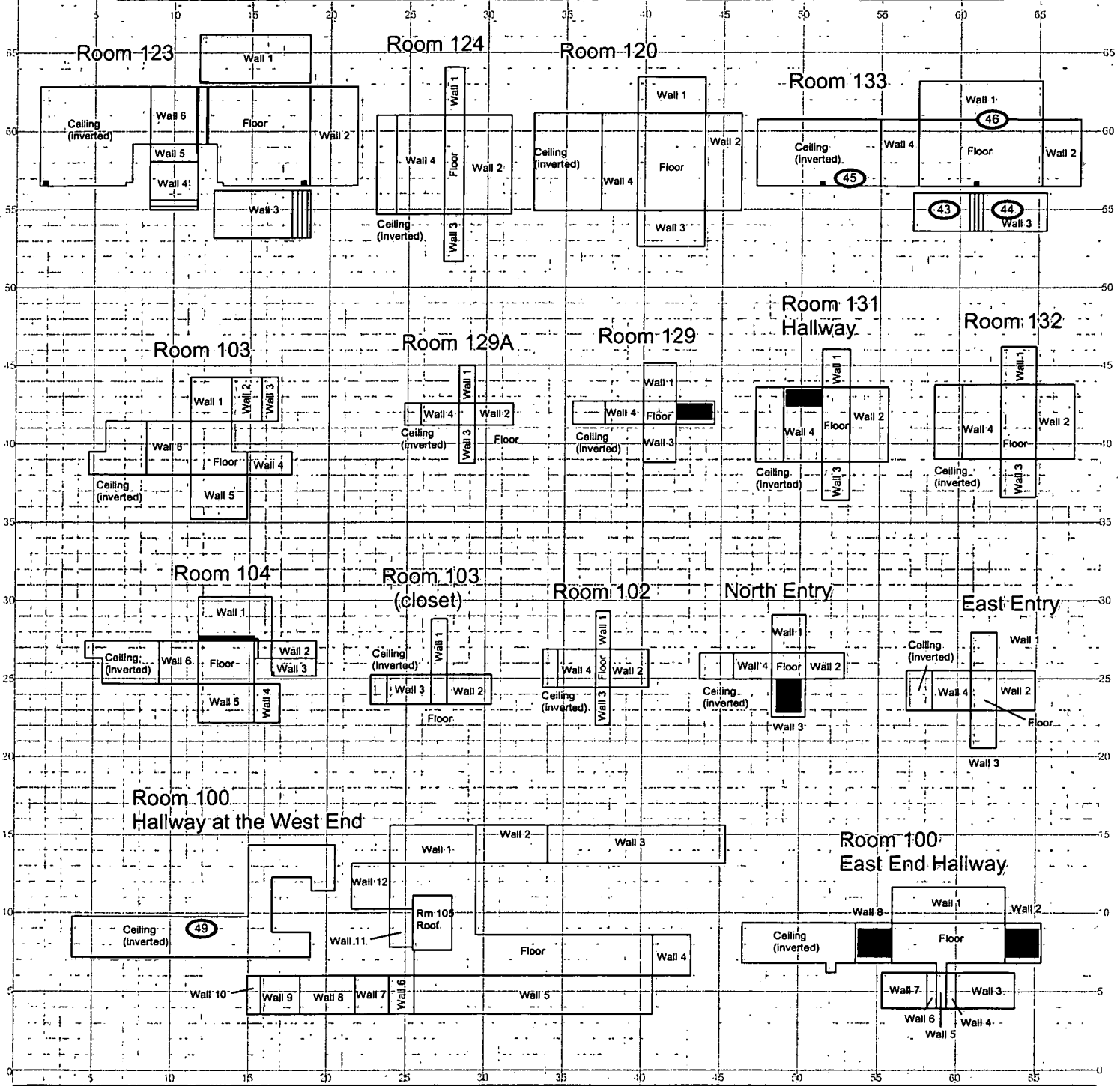
KAISER HILL COMPANY

MAP ID: 02-0888/B122-IN2-ASB

Oct. 28, 2003

CHEMICAL SAMPLE MAP

Building 122
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

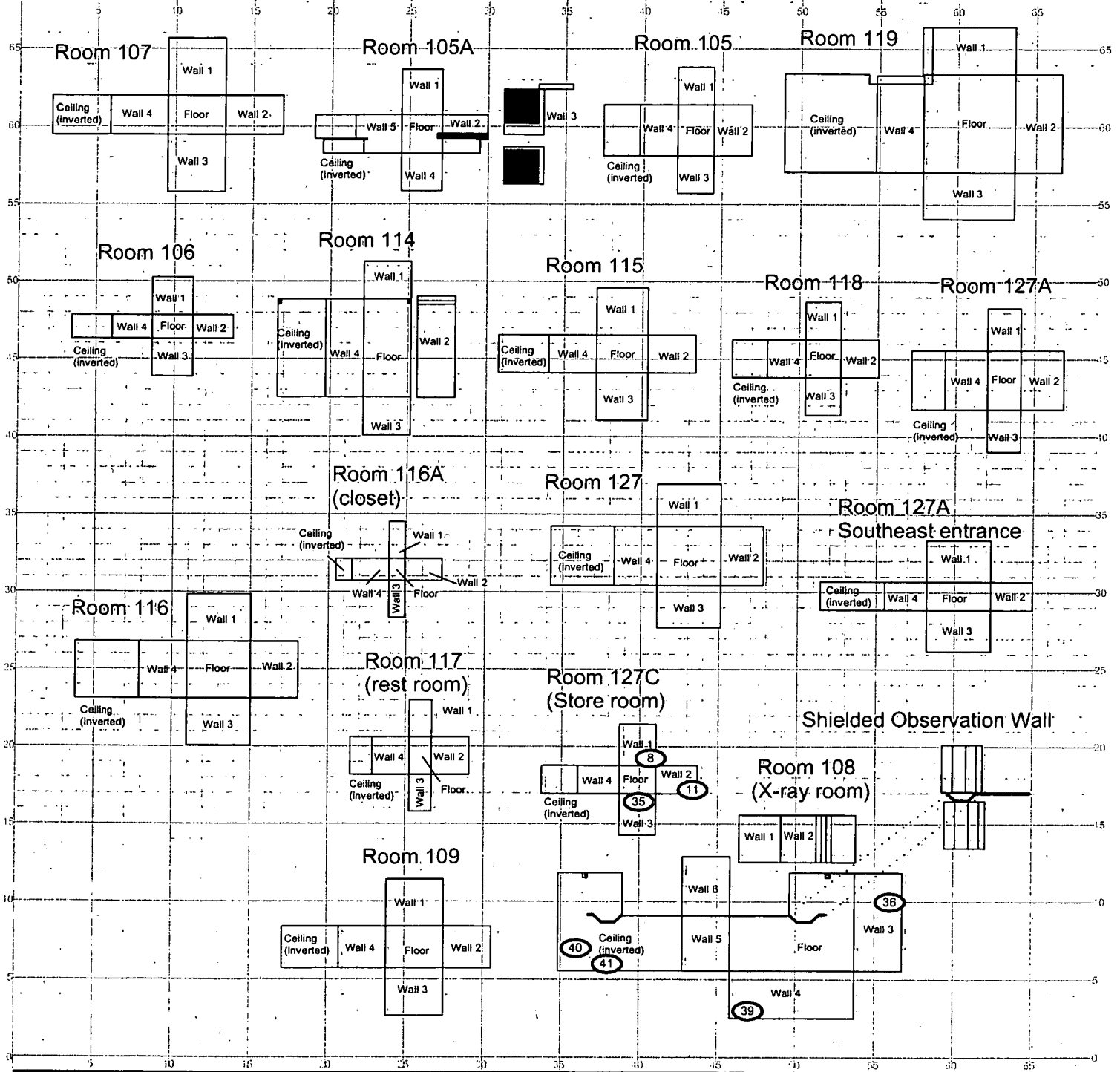
Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0888/B122-IN3-ASB

Oct. 28, 2003

CHEMICAL SAMPLE MAP

Building 122
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prppared by: GIS Dept. 303-966-7707

CH2MHILL
Communications Group

Prepared for: KAISER HILL

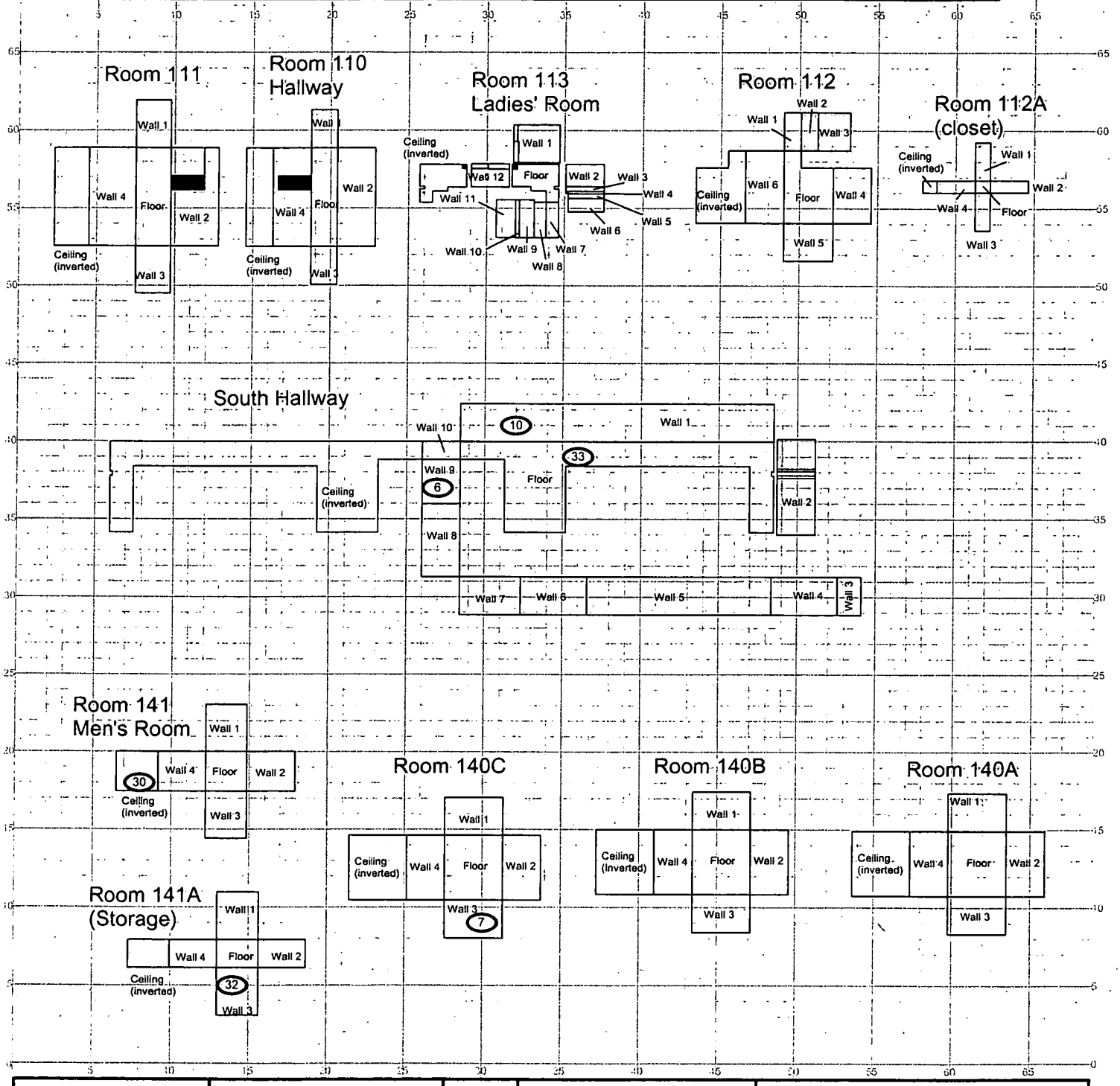
MAP ID: 03-0888/B122-IN-ASB

Oct 8, 2003

91

CHEMICAL SAMPLE MAP

Building 122
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

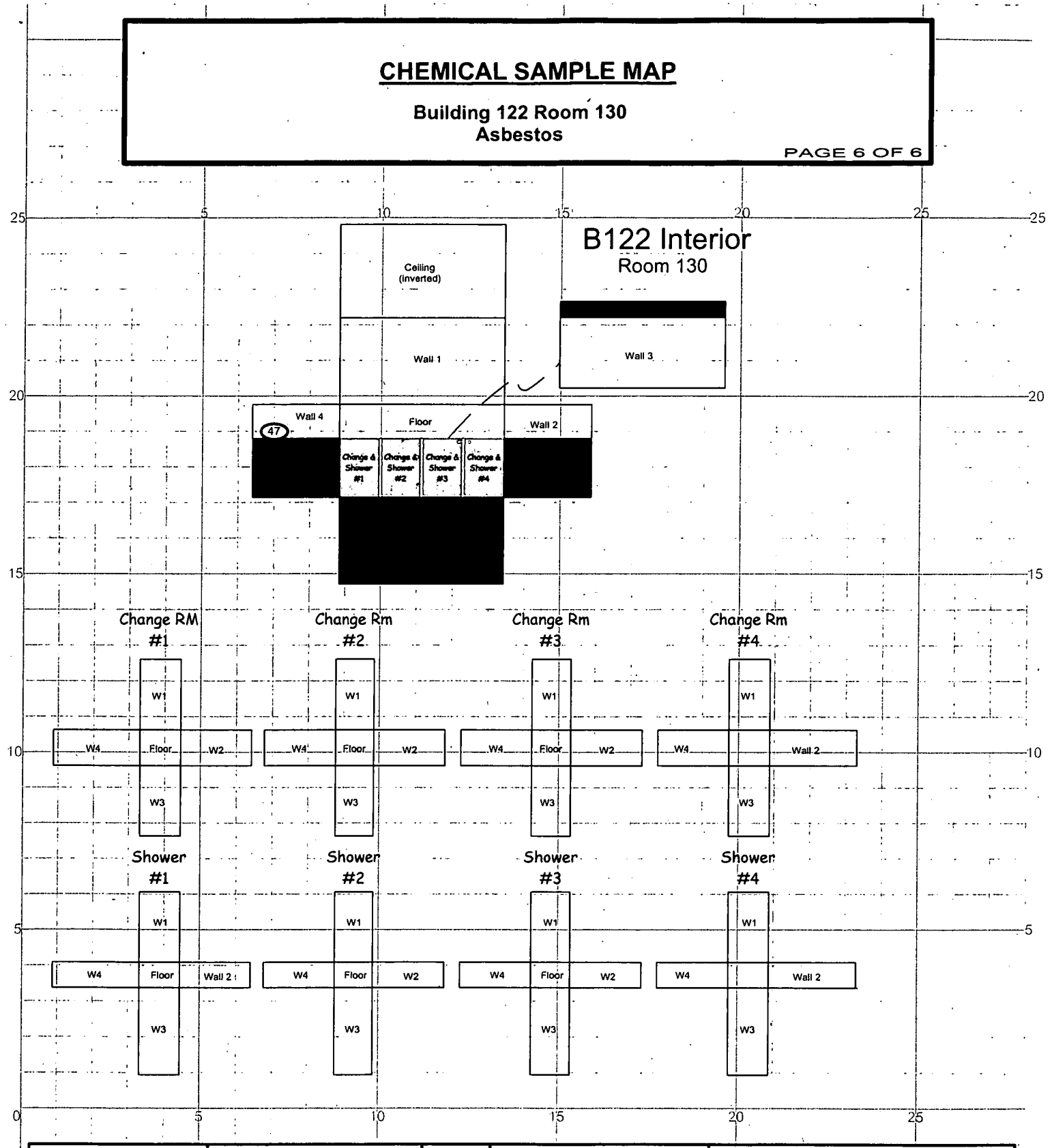
CH2MHILL Communications Group

Prepared for: KAISER-HILL

MAP ID: 02-0888/B122-IN5-ASB Oct. 28, 2003

CHEMICAL SAMPLE MAP

Building 122 Room 130
Asbestos



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 15

0 METERS 5

1 inch = 12 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

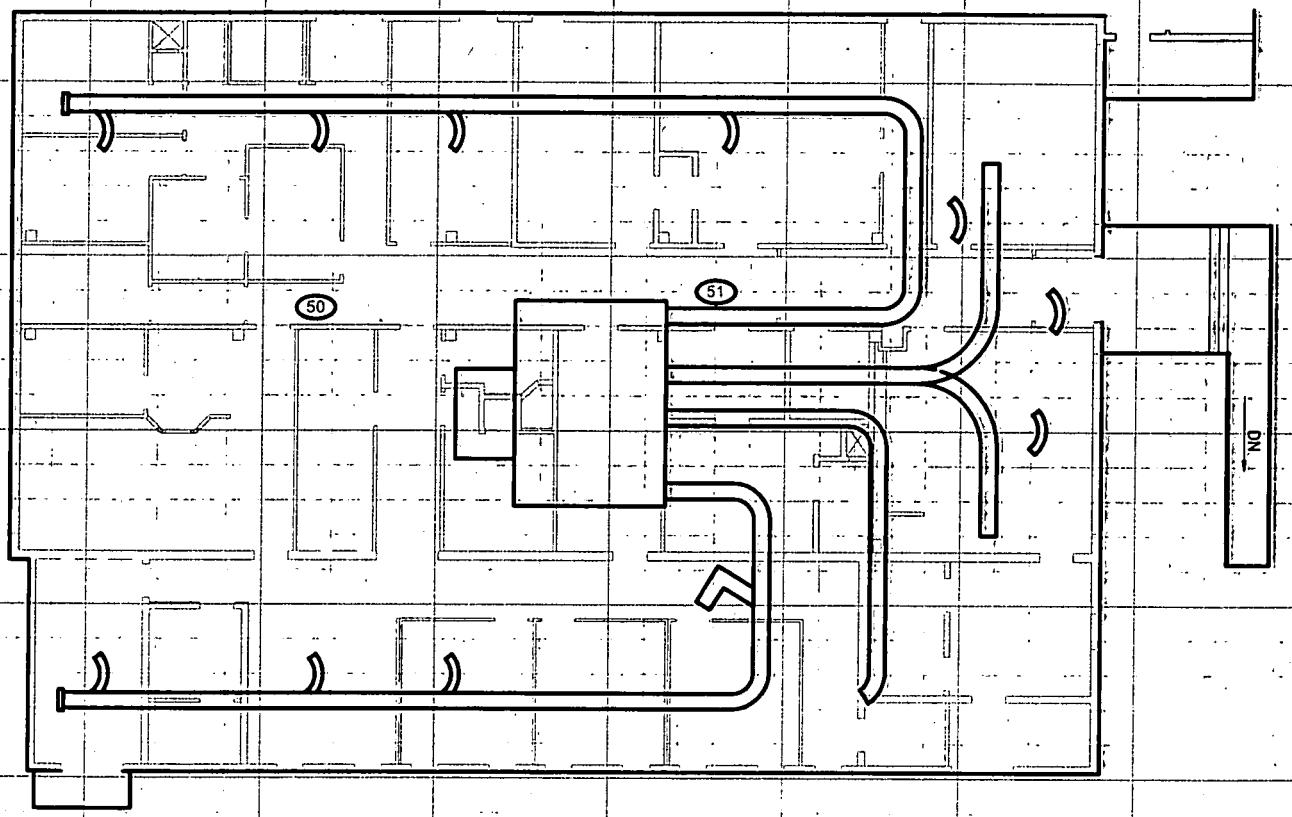
Prepared for: KAISER HILL COMPANY

MAP ID: 03-0888/B122-IN6-ASB Oct. 28, 2003

CHEMICAL SAMPLE MAP

Building 122 Roof
Asbestos

Building 122 Roof



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25

0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:

CH2MHILL Communications Group

KAISER HILL

MAP ID: 02-0888/B122006-ASB Aug. 03, 2004

Beryllium Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($ug/100\ cm^2$)
Building 122 Interior – RIN 04Z0568				
122-12112003-607-001	1	120	On floor	< 0.1
122-12112003-607-012	2	124	On floor	< 0.1
122-12112003-607-016	3	124	On light fixture	< 0.1
122-12112003-607-019	4	124A	On floor	< 0.1
122-12112003-607-025	5	124B	On wall	< 0.1
122-12112003-607-027	6	124B	On light fixture	< 0.1
122-12112003-607-030	7	123	On floor	< 0.1
122-12112003-607-035	8	123A	On floor	< 0.1
122-12112003-607-040	9	125	On floor	< 0.1
122-12112003-607-048	10	125	On heat duct	< 0.1
122-12112003-607-050	11	126	On floor	< 0.1
122-12112003-607-059	12	126	On wall	< 0.1
122-12112003-607-060	13	126	On floor	< 0.1
122-12112003-607-066	14	126	On vent duct	< 0.1
122-12112003-607-068	15	105	On floor	< 0.1
122-12112003-607-077	16	101	On floor	< 0.1
122-12112003-607-082	17	101	On overhead piping	< 0.1
122-12112003-607-090	18	105A	On wall	< 0.1
122-12112003-607-093	19	103A	On floor	< 0.1
122-12112003-607-097	20	103	On floor	< 0.1
122-12112003-607-103	21	103	On wall	< 0.1
122-12112003-607-109	22	104	On floor	< 0.1
122-12112003-607-114	23	104	On wall	< 0.1
122-12112003-607-121	24	106	In overhead ceiling	< 0.1
122-12112003-607-122	25	107	On floor	< 0.1
122-12112003-607-131	26	107	In overhead ceiling	< 0.1
122-12112003-607-132	27	109	On floor	< 0.1
122-12112003-607-139	28	108	On floor	< 0.1
122-12112003-607-145	29	108	On wall	< 0.1
122-12112003-607-158	30	111	In overhead ceiling	< 0.1
122-12112003-607-159	31	110	On floor	< 0.1
122-12112003-607-164	32	110	In overhead ceiling	< 0.1
122-12112003-607-165	33	113	On floor	< 0.1
122-12112003-607-172	34	112	On floor	< 0.1
122-12112003-607-179	35	112A	On floor	< 0.1
122-12112003-607-183	36	114	On floor	< 0.1
122-12112003-607-189	37	114	On wall	< 0.1
122-12112003-607-194	38	115	On floor	< 0.1
122-12112003-607-198	39	115	On wall	< 0.1
122-12112003-607-204	40	118	On floor	< 0.1
122-12112003-607-210	41	116	On floor	< 0.1
122-12112003-607-221	42	116A	In overhead ceiling	< 0.1
122-12112003-607-222	43	117	On floor	< 0.1
122-12112003-607-230	44	119	On floor	< 0.1
122-12112003-607-235	45	119	In overhead ceiling	< 0.1
122-12112003-607-238	46	127	On floor	< 0.1
122-12112003-607-245	47	127	In overhead ceiling	< 0.1
122-12112003-607-247	48	127A	In floor drain	< 0.1
122-12112003-607-251	49	127A	On wall	< 0.1
122-12112003-607-255	50	127A	In overhead ceiling	< 0.1
Building 122 Interior – RIN 04D0962				
122-07062004-9-001	51	140A	Window Sill	< 0.1
122-07062004-9-002	52	140	Floor	< 0.1
122-07062004-9-003	53	140C	Wall	< 0.1
122-07062004-9-004	54	162	Wall	< 0.1
122-07062004-9-005	55	165	Table Top	< 0.1
122-07062004-9-006	56	166	Floor	< 0.1
122-07062004-9-007	57	167	Wall	< 0.1
122-07062004-9-008	58	168	Floor	< 0.1

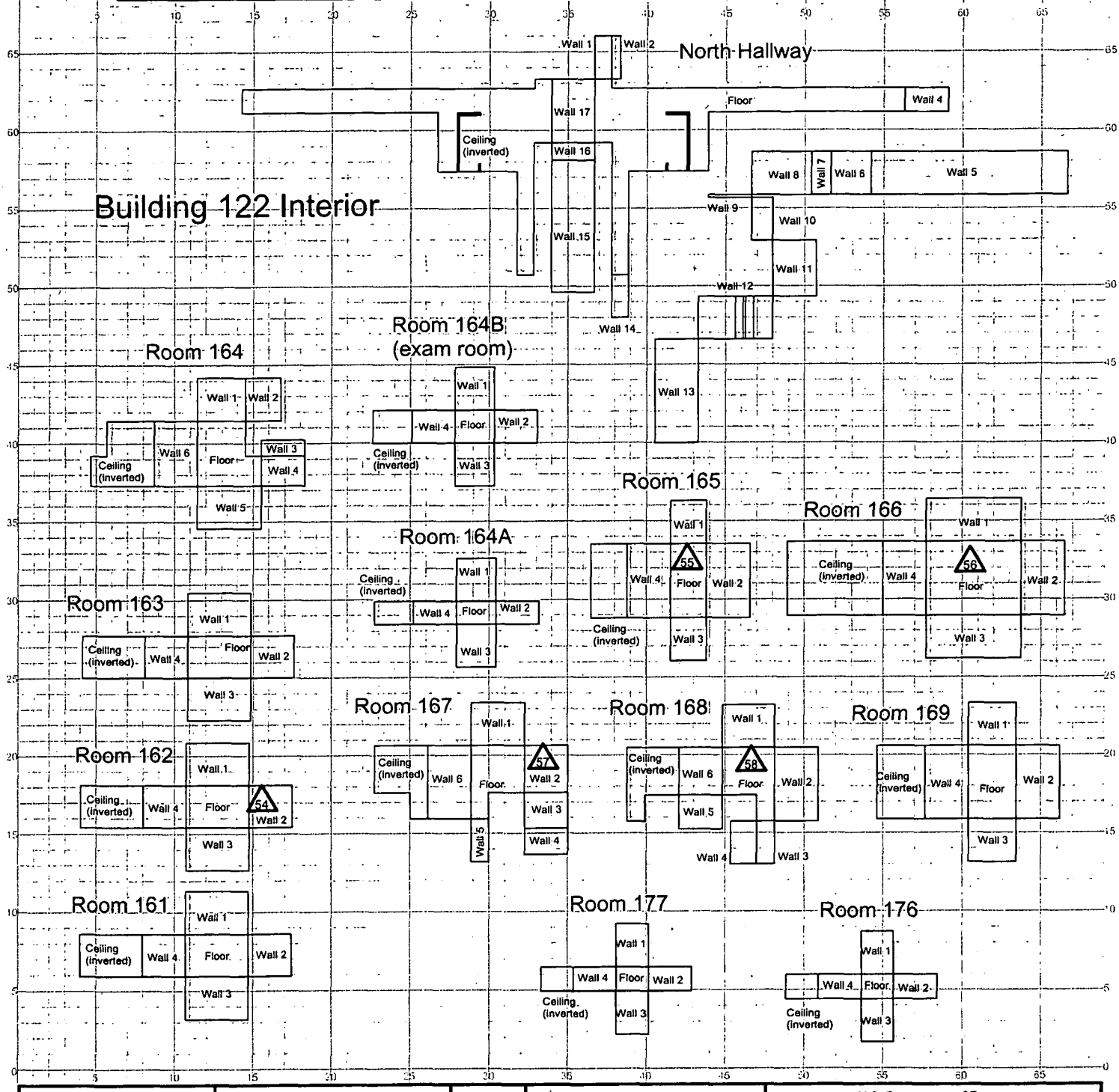
95

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($\mu g/100\ cm^2$)
122-07062004-9-009	59	170	Floor	< 0.1
Building 122 Ventilation System – RIN 04Z2230				
122-07132004-9-001	61	Roof	West end of Large E-W duct	<0.1
122-07132004-9-002	62	Roof	West end lateral of E-W duct	<0.1
122-07132004-9-003	63	Roof	Midway of large E-W duct	<0.1
122-07132004-9-004	64	Roof	East side of large N-S duct	<0.1
122-07132004-9-005	65	Roof	East side of large lateral N-S	<0.1
122-07132004-9-006	66	Roof	N-S main duct (east end)	<0.1
122-07132004-9-007	67	Roof	Toilet exhaust east end-center	<0.1
122-07132004-9-008	68	120	Inside supply diffuser duct	<0.1
122-07132004-9-009	69	100	Inside hallway supply duct	<0.1
122-07132004-9-010	70	105	Inside supply drop diffuser	<0.1
122-07132004-9-011	71	125	Inside supply feeder drop	<0.1

96

CHEMICAL SAMPLE MAP

Building 122
Beryllium



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

Prepared for:

CH2MHILL Communications Group

KAISER HILL

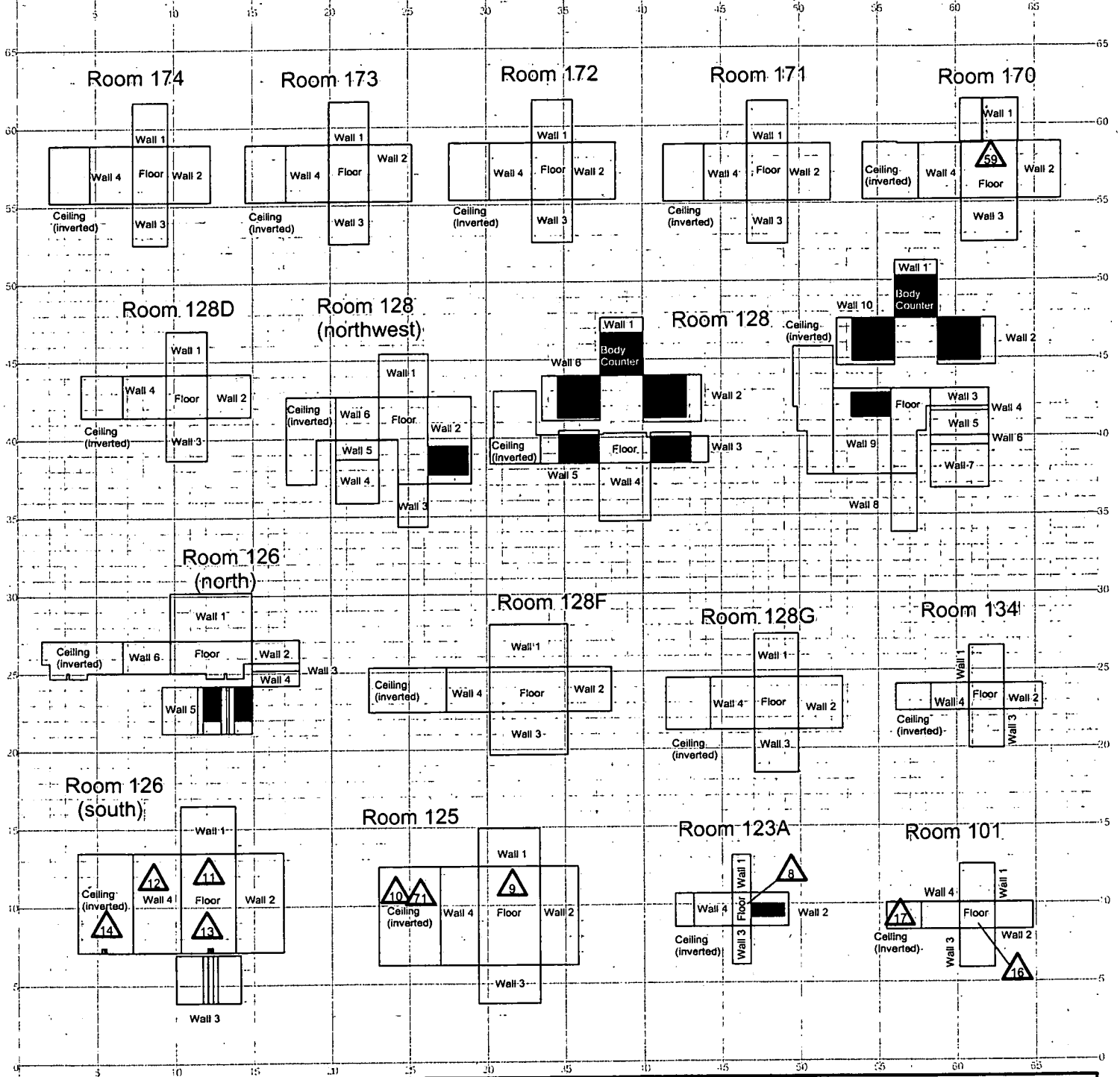
MAP ID: 02-0888/B122-IN1-BE

July 22, 2004

97

CHEMICAL SAMPLE MAP

Building 122
Beryllium



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

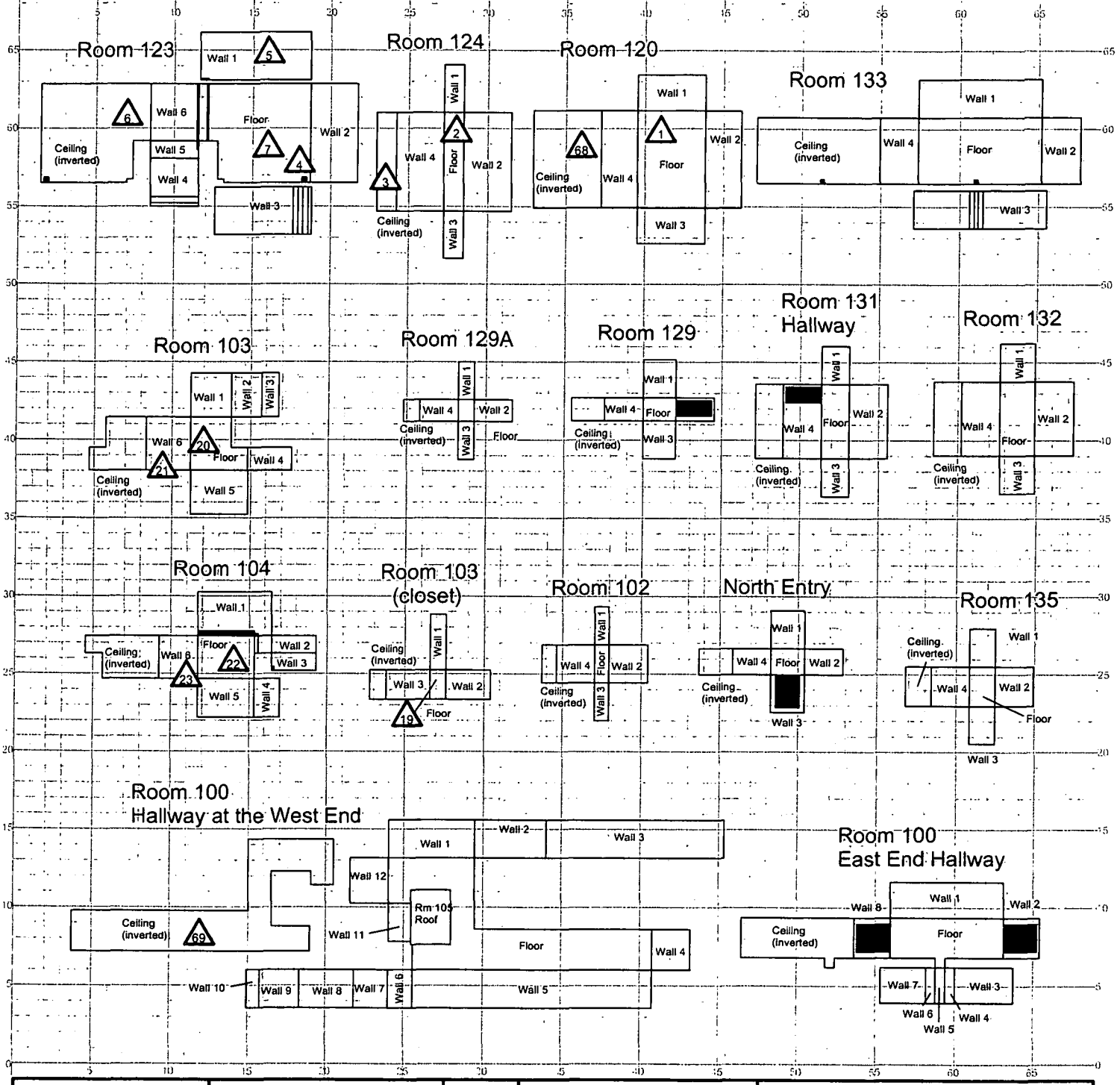
Prepared for: KAISER HILL

MAP ID: 02-0888/B122-IN2-BE

July 22, 2004

CHEMICAL SAMPLE MAP

Building 122
Beryllium



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

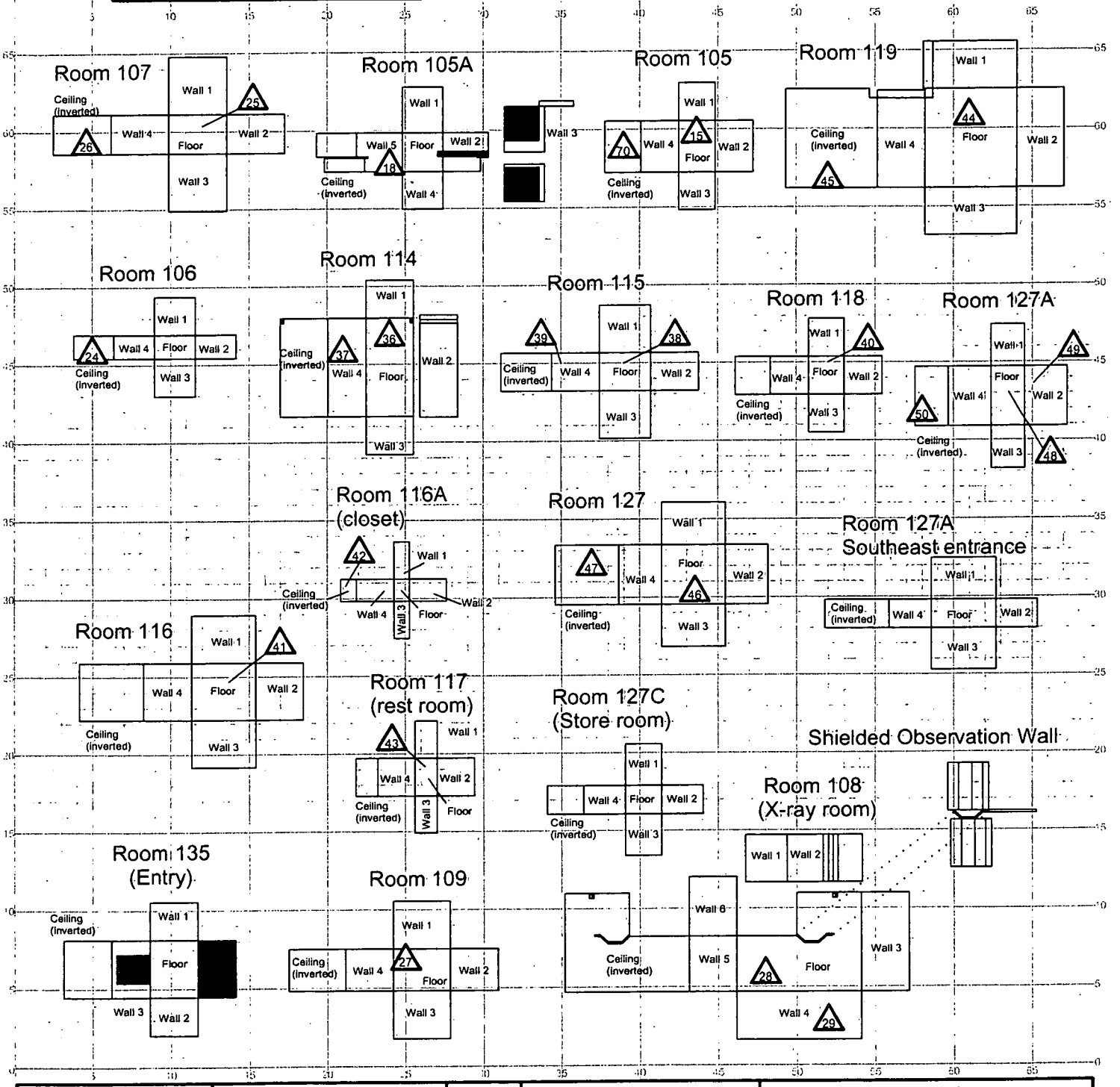
CH2MHILL Communications Group

KAISER HILL COMPANY

MAP ID: 02-0888/B122-IN3-BE July 22, 2004

CHEMICAL SAMPLE MAP

Building 122
Beryllium



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707
CH2MHILL Communications Group

Prepared for: KAISER HILL

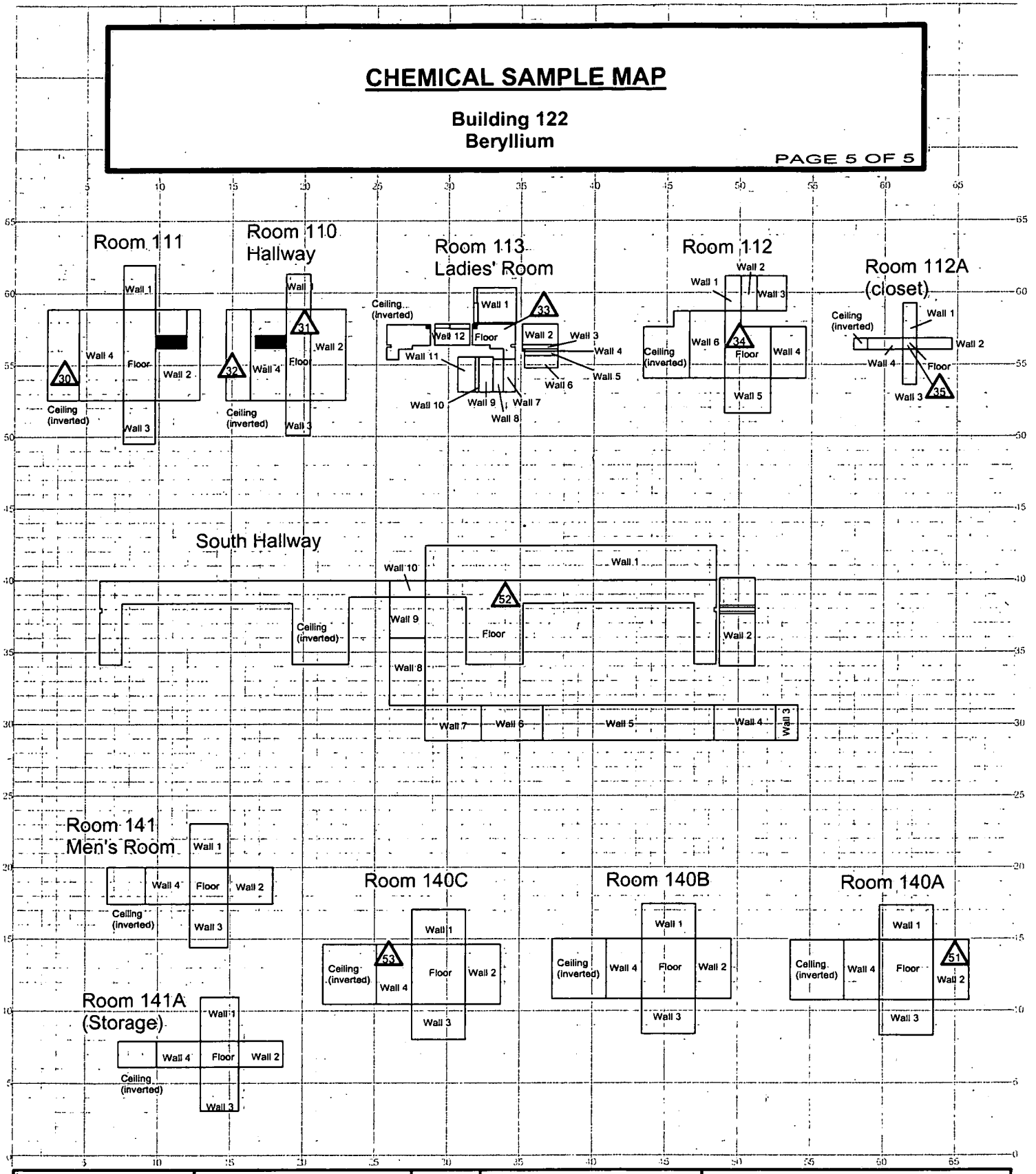
MAP ID: 02-0888/B122-IN4-BE

July 22, 2004

100

CHEMICAL SAMPLE MAP

Building 122
Beryllium



SURVEY MAP LEGEND

- (#) Asbestos Sample Location
- (#) Beryllium Sample Location
- (#) Lead Sample Location
- (#) RCRA/CERCLA Sample Location
- (#) PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 40

0 METERS 10

1 inch = 30 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

Prepared for: KAISER-HILL COMPANY

MAP ID: 02-0888/B122-IN5-BE

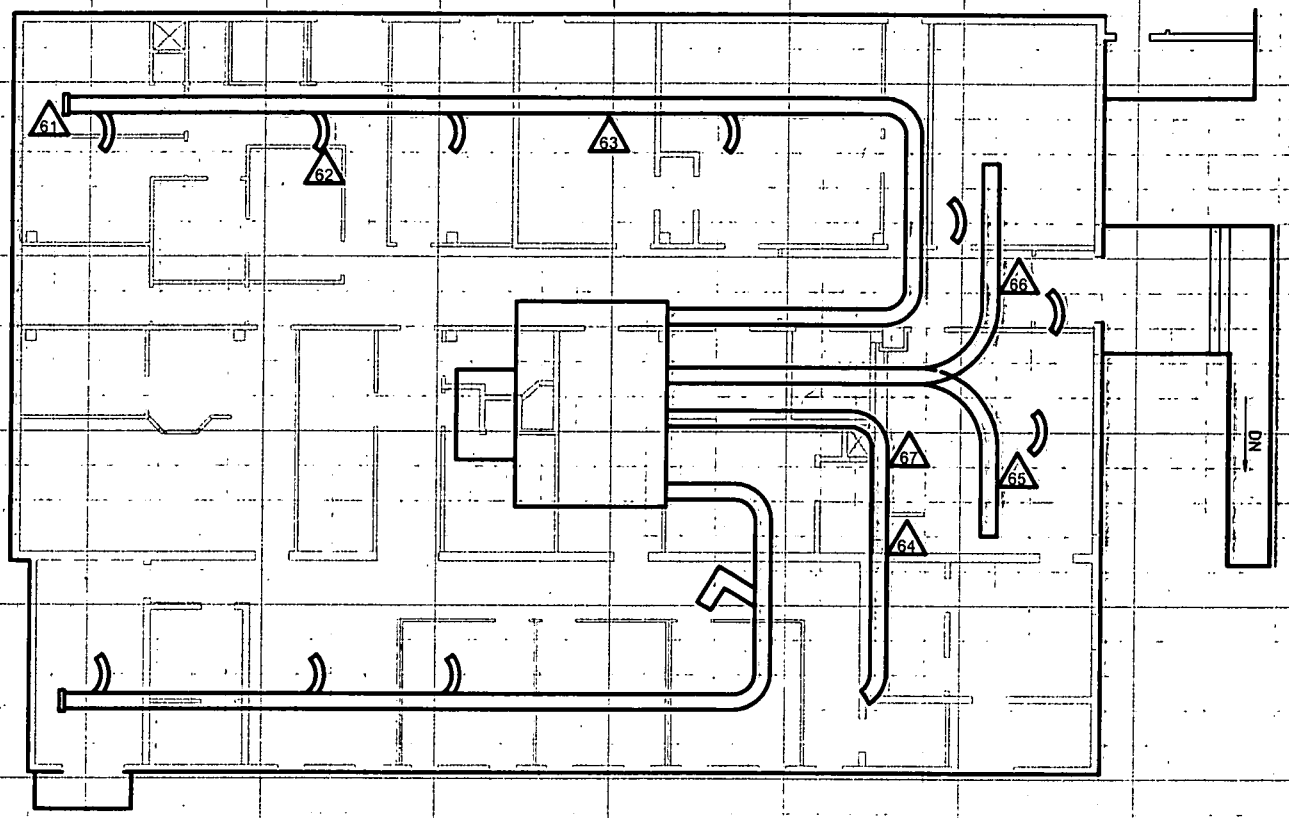
July 22, 2004

101

CHEMICAL SAMPLE MAP

Building 122 Roof Ventilation
Beryllium

Building 122 Ventilation (Roof)



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25

0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

CH2MHILL Communications Group

Prepared for: KAISER HILL

MAP ID: 02-0888/B122006-BE

July 22, 2004

ATTACHMENT D

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION (V&V) OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed. The radiological survey assessment is provided in Table D-1, asbestos in Table D-2 and beryllium in Table D-3. A data completeness summary for all results is given in Table D-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project File. The report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Building 122 based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented for Building 122 based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. Media (paint) samples were taken and analyzed by ISOCS Canberra gamma spectroscopy. Transuranic isotope activity and Uranium and/or other naturally occurring isotope activity were evaluated against, and were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits. Media results were converted to dpm/100cm^2 using the Media Conversion Table, evaluated against the transuranic and uranium DCGL limits, and are the values reported in the Radiological TSA Data Summary in support of the unrestricted release decision process.

Consistent with EPA's G-4 DQO process, the radiological survey design for each survey unit performed per PDS requirements was optimized by checking actual measurement results acquired during pre-demolition surveys against the model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

104

DQA SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties, except the below anomalous condition:

- Initial net activity for sample location #25 (167.7 dpm/100cm^2) was identified greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2) in survey unit 122009. A square meter investigation was conducted in accordance with RSP 16.01 in which eight (8) additional TSA samples/measurements were taken to determine the average activity of the surrounding square meter. The average square meter result (26.4 dpm/100cm^2) was less than the Transuranic DCGL$_W$ and is the value reported in the TSA data summary. No further investigation is required.
- The initial net activity for sample location #29 (200.9 dpm/100cm^2) was greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2) in survey unit 122007. A square meter investigation was conducted in accordance with RSP 16.01 in which eight (8) additional TSA samples/measurements were taken to determine the average activity of the surrounding square meter. The average square meter result (34.2 dpm/100cm^2) was less than the Transuranic DCGL$_W$ and is the value reported in the TSA data summary. No further investigation is required.
- Elevated media (paint) activity above the Transuranic DCGL$_W$ was identified at locations 21, 22, 26, 27, 28, 31 and 32 in survey unit 122005. These areas were either decontaminated, or removed and disposed of as Low Level Waste.
- Initial net activity was identified at sample location #43 (134.2 dpm/100cm^2 – metal ventilation ducting) that was greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2) in survey unit 122006. Four (4) metal coupon samples were taken and analyzed by OASIS Gamma Spectroscopy. No transuranic isotopes were detected, all activity was determined to be uranium and/or other naturally occurring isotopes. All results were below the Uranium DCGL unrestricted release limits. On this basis, the TSA Alpha Gross CPM value of zero (0) was entered into the TSA Data Summary. No further investigation is required.
- The following non-friable asbestos containing materials will remain in the building during demolition and will be appropriately managed during demolition and waste disposal in order to maintain non-friable status:
    - 9 by 9 inch brown floor tile in portions of Rooms 128, 128B, 128D, 133A and 133B (mostly under carpet).
    - Painted skim coat on the concrete block walls in Rooms 127B and 140D.
    - Mastic under non-asbestos floor tile in the west end of the 140 hallway.
    - Mastic pucks on the south wall of Rooms 112, 114 and 116 (previously held the drywall).
- The embedded Process Waste System drains and piping located underneath the slab shall be managed as LLW during demolition.

105

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable radiological DCGL unrestricted release levels (except as noted above). Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable RSPs, survey units were properly designed and bounded, and instrument performance and calibration were within acceptable limits. All results meet the PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facility. On this basis, Building 122 meets the PDSP unrestricted release criteria with the confidences stated herein.

106

Table D-1 V&V of Radiological Results for Building 122

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	**Measure**	**Frequency**	**COMMENTS**
ACCURACY	Initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	Daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	Local area background: Field	Typically < 2,500 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	Field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Units 122001, 122002, 122003, 122004, 122005, 122006, 122007, 122009 (interior) and EXT-B-001 (exterior).	Statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	Qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Units of measure	Dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys Usable results vs. unusable	>95% >95%	NA	See Table E-4 for details.
SENSITIVITY	Detection limits	TSA: ≤ 50 dpm/100cm^2 RA: ≤ 10 dpm/100cm^2	all measures	PDS MDAs ≤ 50% $DCGL_w$

Table E-2 V&V of Asbestos Results – Building 122

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	RIN04Z0174 RIN04Z0125	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 32 sample	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Package (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table E-4; final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	<1% by volume	All measures	N/A

Table D-3 V&V of Beryllium Results for Building 122

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	DataChem Laboratories, Inc. Salt Lake City, Utah	
		RIN ---->	RIN04Z0568 RIN04D0962 RIN04Z2330	
				COMMENTS
QUALITY REQUIREMENTS		Measure	Frequency	All results were below associated action and investigation levels.
ACCURACY	Calibrations Initial	linear calibration	≥1	
	Continuing	80%<%R<120 %	≥1	
	LCS/MS	80%<%R<120 %	≥1	
	Blanks – lab & field	<MDL	≥1	
	Interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120 % (RPD<20%)	≥1	
	Field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	Hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	Measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	Detection limits	MDL of 0.012 ug/100cm^2	all measures	

Table D-4 Data Completeness Summary For Building 122

ANALYTE	Building/Area/Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	Building 122 – (interior and exterior)	20 biased	32 biased (30 interior/2 exterior)	ACM present, four (4) locations identified that are > 1% by volume	40 CFR765.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN04Z0125: map locations 1, 4, 6, 7, 8, 10, 11, 21, 22, 23, 26 thru 30, 32, 33, 35, 36, 39, 40, 41, 43 thru 49. RIN04Z0174: map locations 50 and 51. Non-friable ACM identified in 4 locations that shall remain in the building during demolition. The non-friable ACM will be maintained and managed during demolition activities so as to maintain it's non-friable status. Refer to section 4.1 for further discussion.
Beryllium	Building 122 – (interior and exterior)	70 biased	70 biased (63 interior/7 exterior)	No contamination found at any location, all results are less than associated action levels	10CFR850; OSHA ID-125G RIN04Z0568: map locations 1 through 50 RIN04D0962: map locations 51 through 59 RIN04Z2230: map locations 61 through 71 No results above the action level (0.2 ug/100cm^2) or investigative level (0.1 ug/100cm^2.)
Radiological	Survey Area 5 Survey Unit: 122001 Bldg. 122 – Rooms 164, 164A, 164B, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177 and 178 Floors, Walls and Ceiling (interior)	15 α TSA (random) and 15 α Smears (random) 2 QC TSA 10% scan	15 α TSA (random) and 15 α Smears (random) 2 QC TSA 10% scan	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used.

Table D-4 Data Completeness Summary For Building 122

ANALYTE	Building/Area/Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 5 Survey Unit: 122002 Bldg. 122 – Rooms 127C, 140, 140A, 140B, 140C, 141, 141A, 150 and 151 Floors, Walls and Ceilings (interior)	15 α TSA (random) and 15 α Smears (random) 2 QC TSA 10% scan	15 α TSA (random) and 15 α Smears (random) 2 QC TSA 10% scan	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used.
Radiological	Survey Area 5 Survey Unit: 122003 Bldg. 122 – Rooms 131, 132 and 133B Floors, Walls and Ceilings (interior)	16 α TSA (systematic) and 16 α Smears (systematic) 2 QC TSA 50% scan of the floors, 10% scan of remaining surfaces	16 α TSA (systematic) and 16 α Smears (systematic) 2 QC TSA 50% scan of the floors, 10% scan of remaining surfaces	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used.
Radiological	Survey Area 5 Survey Unit: 122004 Bldg. 122 – Rooms 128, 128C, 128D, 128E, 128F, 128G, 161, 161A, 162, 163 and 179 Floors, Walls and Ceilings (interior)	21 α TSA (systematic) and 21 α Smears (systematic) 2 QC TSA 50% scan of the floors, 10% scan of remaining surfaces	21 α TSA (systematic) and 21 α Smears (systematic) 2 QC TSA 50% scan of the floors, 10% scan of remaining surfaces	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used.

Table D-4 Data Completeness Summary For Building 122

ANALYTE	Building/Area/Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 5 Survey Unit: 122005 Bldg. 122 – Rooms 100, 102, 103, 103A Closet, 104, 105, 105A, 106 107, 108, 109, 110, 111, 112, 112A, 113, 114, 115, 116, 116A, 117, 118, 119, 120, 123A, 124, 125, 125, 126, 127, 127A, 127B, 128A, 128H, 129, 129A, 130, 133A, 134 and 135 Floors, Walls and Ceilings (interior)	63 α TSA (biased) 63 α TSA Pre and Post and 63 α Smears (biased) 63 α Smears Pre and Post 100% scan	63 α TSA (biased) 63 α TSA Pre and Post and 63 α Smears (biased) 63 α Smears Pre and Post 100% scan	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used. Elevated activity above the Transuranic DCGL was identified at locations 21, 22, 26, 27, 28, 31 and 32. These areas were decontaminated, or removed and disposed of as Low Level Waste.
Radiological	Survey Area 5 Survey Unit: 122006 Bldg. 122 – Ventilation System, all rooms (interior)	60 α TSA (biased) and 60 α Smears (biased) 3 QC TSA Scan all accessible surfaces	60 α TSA (biased) and 60 α Smears (biased) 3 QC TSA Scan all accessible surfaces	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used. Initial net activity was identified at sample location #43 (134.2 dpm/100cm^2) that was greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2). Four (4) metal coupon samples were taken and analyzed by OASIS Gamma Spectroscopy. No transuranic isotopes were detected, activity was determined to be uranium or other naturally occurring isotopes. On this basis, the TSA Alpha Gross CPM value of zero (0) was entered into the TSA Data Summary. No further investigation is required.

Table D-4 Data Completeness Summary For Building 122					
ANALYTE	**Building/Area/Unit**	**Sample Number Planned (Real & QC)[A]**	**Sample Number Taken (Real & QC)**	**Project Decisions (Conclusions) & Uncertainty**	**Comments (RIN, Analytical Method, Qualifications, etc.)**
Radiological	Survey Area 5 Survey Unit: 122007 Bldg. 122 – Rooms 119, 120, 123, 123A, 124, 127, 127A, 127B and 127C – Floors, Walls and Ceilings (interior)	29 α TSA (28 systematic/ 1 biased) and 28 α Smears (systematic) 2 QC TSA 100% scan of all accessible surface	29 α TSA (28 systematic/ 1 biased) and 28 α Smears (systematic) 2 QC TSA 100% scan of all accessible surface	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used. The initial net activity for sample location #29 (200.9 dpm/100cm^2) was greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2). A square meter investigation was conducted in accordance with RSP 16.01 in which eight (8) additional TSA samples/measurements were taken to determine the average activity of the surrounding square meter. The average square meter result (34.2 dpm/100cm^2) was less than the Transuranic DCGL$_W$ and is the value reported in the TSA data summary. No further investigation is required
Radiological	Survey Area 5 Survey Unit: 122009 Bldg. 122 – Rooms 100 through 117, 103A, 105A, 112A, 116A, 118, 125, 126, 128A, 128B, 128H, 129, 129A, 130, 133A, 134 and 135 Floors, Walls and Ceilings (interior)	25 α TSA (24 systematic/ 1 biased) and 24 α Smears (systematic) 2 QC TSA 100% scan of floor surfaces, 25% scan of wall and ceiling surfaces	25 α TSA (24 systematic/ 1 biased) and 24 α Smears (systematic) 2 QC TSA 100% scan of floor surfaces, 25% scan of wall and ceiling surfaces	No contamination at any location; all values below unrestricted release levels	Transuranic DCGLs were used. The initial net activity for sample location #25 (167.7 dpm/100cm^2) was greater than the Transuranic DCGL$_W$ (100.0 dpm/100cm^2). A square meter investigation was conducted in accordance with RSP 16.01 in which eight (8) additional TSA samples/measurements were taken to determine the average activity of the surrounding square meter. The average square meter result (26.4 dpm/100cm^2) was less than the Transuranic DCGL$_W$ and is the value reported in the TSA data summary. No further investigation is required.